

THE INDUSTRIAL ARTS INDEX

**SECOND TWO-YEAR CUMULATION
[NINTH ANNUAL VOLUME]**

1920—1921

**SUBJECT INDEX TO A SELECTED LIST OF ENGINEERING, TRADE
AND BUSINESS PERIODICALS, BOOKS AND PAMPHLETS
WITH A LIST OF IMPORTANT TECHNICAL
SOCIETIES**

**EDITED BY
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PREFACE

In accordance with the plan of cumulation adopted two years ago, the two volumes of the Industrial Arts Index, covering the years 1920 and 1921, have been combined in one alphabet and published as number ten of volume nine. It includes all the references appearing in the Industrial Arts Index since January 1920. It supplants, therefore, the 1920 annual volume as well as all the current numbers for 1921. The list of periodicals indexed is given on following pages. The periodicals recently added and not therefore indexed thru the entire two-year period are indicated by an asterisk. With the vast amount of new technical literature to be indexed it seemed unwise to go back even for the period of a year in order to index all the periodicals completely. New technical and business books have been included in the same alphabet with the periodical references, this feature having been begun in the middle of 1920. Various bibliographies from other sources than the magazines regularly indexed will also be found under their proper subject headings.

The members of the staff who are responsible for this volume include besides those mentioned on the title page, Miss May Carpenter, who has given faithful and intelligent service to the Index almost from its beginning; Miss Elsie Schonholtz, who has read the page proof for this volume; Miss Bella Traum, Mrs. Marion Scherr and Miss Marguerite Klosset, who the recent additions to the staff, have carried on the monotonous details with patience and efficiency.

M. E. P.

Technical Societies

The following list is compiled by Marian Lord of the Index staff from notices found in the periodicals indexed in the Industrial Arts Index for 1921

- Aerial league of America**
Sec. Maj. R. Sutton, 280 Madison Ave., New York
- Aerial league of the world**
Sec. 280 Madison Av., New York
- Aero club of America**
Sec. Augustus Post, 11 East 38th St., New York
Annual meeting, New York, Nov. 14, '21
A calendar of events under the auspices of the club appears in each issue of the Aerial Age-Weekly
- Aeronautical chamber of commerce of America**
Sec. 501 Fifth Ave., New York
This organization partly succeeds the Manufacturers' Aircraft Association in that it will collect and disseminate information regarding aeronautical activities, and will publish the Aircraft Year Book
- Aeronautical society of America**
Amalgamated with the Society of automotive engineers
- Alloys research association**
Chairman, Bd. of Managers, Alfred D. Flinn, Engineering Foundation, 29 W. 39th St., New York
- American association for the advancement of science**
Sec. Dr. Burton E. Livingston, Johns Hopkins University, Baltimore
Meeting, Toronto, Dec. 27-31, '21
- American association of advertising agencies**
Executive Sec. James O'Shaughnessy, Metropolitan Tower, New York
Annual convention, Philadelphia, Oct. 10-12, '21
- American association of engineers**
Sec. C. E. Drayer, 63 East Adams St., Chicago
Annual convention, Buffalo, May 9-11, '21
- American association of operating engineers**
Sec. H. C. Bristol, Tallahassee Power Co., Tallahassee, Ala.
Organization of southern electric light and power plant engineers
- American association of petroleum geologists**
Sec.-Treas. Charles E. Decker, Norman, Okla.
Annual meeting, Tulsa, Okla., March 17-19, '21
- American association of port authorities**
Sec. M. I. Fennell, J., Montreal, Can.
Convention, Seattle, Wash., Oct. 11-14, '21
- American association of refrigeration**
Sec. 5707 West Lake St., Chicago
Annual meeting, Washington, D.C., Mar. 25-26, '21
- American association of state highway officials**
Sec. Charles M. Upham, Raleigh, N.C.
Annual meeting, Omaha, Neb., Dec. 5-8, '21
- American association of textile chemists and colorists**
Sec. Walter E. Hadley, Clark Thread Co., Newark, N.J.
Organization meeting, Boston, Mass., Nov. 3, '21
- American association of woolen & worsted manufacturers**
Sec. J. J. Nevins, 45 E. 17th St., New York
Annual meeting, Waldorf-Astoria, New York, Dec. 7, '21
- American automobile association**
Sec. John N. Brooks, Torrington, Conn.
- American bankers' association**
Sec. Wm. B. Fitzwilson, 5 Nassau St., New York
Annual convention, Los Angeles, Calif., Oct. 4-7, '21
- American boiler manufacturers' association**
Sec.-Treas. H. N. Covell, c/o Lidgerwood Mfg. Co., Brooklyn
Winter meeting, Hollenden hotel, Cleveland, O., Feb. 22, '21
Annual convention, Bedford Springs, Pa., June 20-22, '21
- American building exposition**
Asst. Mgr. R. G. Collier, 1305 Schofield Bldg., Cleveland, O.
Exposition, Cleveland auditorium, Cleveland, Jan. 4-14, '22
- American ceramic society**
Sec. Ross C. Purdy, Ohio State University, Columbus, Ohio
Annual meeting, Deschler hotel, Columbus, Ohio, Feb. 21-24, '21
Summer meeting, Canton, O., July 25-27, '21
Annual meeting, St. Louis, Mo., Feb. 27-Mar. 2, '22
- American chemical society**
Sec. Charles L. Parsons, 1709 G St., N. W., Washington, D.C.
61st meeting, Rochester, N.Y., April 26-29, '21
National exposition of chemical industries, 8th Coast Artillery Armory, New York, Sept. 12, '21
Fall meeting, New York, Sept. 6-10, '21
Spring meeting, Birmingham, Ala., April '22
- American civic association**
Meeting, Chicago, Nov. 13-17, '21
- American concrete institute**
Sec. Harvey Whipple, 314 New Telegraph Bldg., Detroit
Convention, Auditorium hotel, Chicago, Feb. 14-16, '21
Convention, Cleveland, O., Feb. 13-16, '22
- American concrete pipe association**
Sec. G. E. Warren, 175 W. Jackson Blvd., Chicago
Convention, Chicago, Feb. 18-19, '21
- American drop forge association**
Sec. E. B. Horne, Rochester Foundry and Machine Co., Rochester, Mich.
Annual convention, held jointly with Drop forge supply association, Chicago, June 22-24, '21
- American dyes institute**
Sec. William R. Corwine, 132 W. 42d St., New York
Annual meeting, New York, Jan. 21, '21
- American electric railway accountants' association**
Sec.-Treas. F. J. Davis, Public Service Railway, Newark, N.J.
Annual convention, Atlantic City, Oct. 3-5, '21
- American electric railway association**
Sec. J. W. Welsh, 8 W. 40th St., New York
Annual convention, Atlantic City, N.J., Oct. 3-7, '21
Midyear conference, Indianapolis, Ind., Feb. 28, '22
- American electrochemical society**
Sec. A. D. Spillman (Acting Sec.), Lehigh University, Bethlehem, Pa.
Spring meeting, Hotel Chalfonte, Atlantic City, April 21-23, '21
Fall meeting, Lake Placid, N.Y., Sept. 29-Oct. 1, '21
Spring meeting, Baltimore, Md., April '22

American electro-platers' society
 Sec.-Treas. J. E. Sterling, 473 10th Ave., Long Island City, N.Y.
 Convention, Indianapolis, June 29-July 2, '21
 Convention, Cincinnati, O., June '22

American engineering council
 See Federated American engineering societies

American engineering standards committee
 Sec. P. G. Agnew, 29 W. 39th St., New York

American face brick association
 Sec. R. D. T. Hollowell, 110 S. Dearborn St., Chicago
 Annual convention, White Sulphur Springs, W. Va., Nov. 30-Dec. 2, '21

American federation of arts
 Sec. Miss Leila Mechlin, 1741 New York Ave., Washington, D.C.
 Annual convention, Washington, D.C., May 18-21, '21

American foundrymen's association
 Sec.-Treas. C. E. Hoyt, Marquette Bldg., Chicago
 Annual convention, Cleveland Public Hall, Cleveland, O., May 22-29, '22

American gas association
 Sec.-Manager. Oscar H. Fogg, 130 E. 15th St., New York
 Annual convention, Chicago, Nov. 7-12, '21

American gear manufacturers' association
 Sec. Frank D. Hamlin, c/o Earl Gear & Machine Co., Philadelphia
 Annual meeting, Sinton hotel, Cincinnati, O., April 27-30, '21
 Semi-annual meeting, Rochester, N.Y., Oct. 13-15, '21

American Institute of accountants
 Sec. A. P. Richardson, 135 Cedar St., New York
 Annual meeting, New Washington hotel, Washington, D.C., Sept. 20-21, '21

American Institute of architects
 Sec. W. Stanley Parker, 120 Boylston St., Boston
 Convention, Washington, D.C., May 11-13, '21

American Institute of chemical engineers
 Sec. John C. Olsen, Brooklyn Polytechnic Institute, Brooklyn, N.Y.
 Semi-annual meeting, Detroit, Mich., June 20-24, '21
 Annual meeting, Baltimore, Md., Dec. 6-9, '21

American Institute of consulting engineers
 Sec. F. A. Mohr, 35 Nassau St., New York
 Annual meeting, Engineers' Club, New York, Jan. 16, '22

American Institute of electrical engineers
 Sec. F. L. Hutchinson, 33 W. 39th St., New York
 Midwinter convention, United Engineering Societies Bldg., New York, Feb. 10-18, '21
 Annual meeting, New York, May '21
 Annual convention jointly with the Pacific Coast convention, Salt Lake City, Utah, June 20-25, '21
 Midwinter convention, United Engineering Societies Bldg., New York, Feb. 10-15, '22

American Institute of metals
 Now a division of the American Institute of Mining and Metallurgical Engineers

American Institute of Mining and Metallurgical Engineers
 Sec. Frederick F. Sharpless, 29 W. 39th St., New York
 Spring meeting, New York, Feb. 14-17, '21
 Semi-centennial anniversary, Wilkes-Barre, Pa., Sept. 12-15, '21
 Annual meeting, United Engineering Societies Bldg., New York, May 21, '22

American Institute of weights and measures
 Sec. C. C. Stutz, 115 Broadway, New York
 Annual meeting, United Engineering Societies Bldg., New York, Dec. 9, '21

American Iron and steel Institute
 Sec. H. H. Cook, (Acting Sec.) 61 Broadway, New York

Annual meeting, Hotel Commodore, New York, May 27, '21

Meeting, New York, Nov. 18, '21
 Annual meeting, New York, May '22

American leather chemists' association
 Sec. H. C. Reed, 22 E. 16th St., New York
 Annual meeting, Ambassador hotel, Atlantic City, June 9-11, '21

American manufacturers' export association
 Sec. A. W. Willmann, 160 Broadway, New York
 Annual convention, Waldorf-Astoria hotel, New York, Oct. 5-6, '21

American metric association
 Sec. Howard Richards, Jr., 156 5th Av., New York

American mining congress
 Sec. James F. Calbreath, Munsey Bldg., Washington, D.C.
 Annual convention, Coliseum, Chicago, Oct. 17-22, '21

American national retail jewelers association
 Sec. A. W. Anderson, Neenah, Wis.

American newspaper publishers association
 Sec. John S. Bryan, c/o Richmond News Leader, Richmond, Va.
 Annual meeting, Waldorf Astoria, New York, April 27-29, '21

American oil chemists' society (formerly Society of cotton products analysts)
 Sec.-Treas. Thomas B. Caldwell, Law & Co., Wilmington, N.C.
 Annual meeting, Congress hotel, Chicago, May 16-17, '21

American order of steam engineers
 Sec. Andrew Lauterbach, 4726 North Warnock St., Philadelphia
 Annual convention, Allentown, Pa., June 6-11, '21
 Annual convention, Philadelphia, Pa., June '22

American paper and pulp association
 Sec.-Treas. Dr. Hugh P. Baker, 18 E. 41st St., New York
 Annual meeting, Waldorf-Astoria, New York, April 11-15, '21

American petroleum institute
 Sec. R. L. Welch, 17 W. 44th St., New York
 Annual meeting, Chicago, Dec. 6-8, '21

American physical society
 Sec. D. C. Miller, Case School of Applied Science, Cleveland, O.
 Meeting, New York, Feb. 25-26, '21
 Meeting, Chicago, Nov. 25-26, '21

American public health association
 Sec. A. W. Hedrick, 169 Massachusetts Ave., Boston
 Semi-centennial exhibition, New York, Nov. 13-18, '21

American radio relay league
 Dir. N. E. Wunderlich, 4533 N. Sawyer Ave., Chicago
 First National radio exposition, Broadway Armory, 5075 Broadway, Chicago, Aug. 30-Sept. 3, '21

American railway association
 Sec. J. B. Fairbanks, 75 Church St., New York
 Annual meeting, Waldorf-Astoria hotel, New York, Nov. 16, '21
 Annual meeting, New York, Nov. '22
 A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age.

American railway bridge and building association
 Sec. C. A. Lichty, C. & N. W. Railway, 319 N. Waller Ave., Chicago
 Convention, Cincinnati, Ohio, Oct. 17-19, '22

American railway development association
 Sec. J. F. Jackson, Central of Georgia, Savannah, Ga.
 Annual meeting, Denver, Colo., May 10-12, '22

- American railway engineering association**
Sec. E. H. Fritch, 431 S. Dearborn St., Chicago
Convention, Chicago, March 14-16, '22
- American railway tool foremen's association**
Sec. R. D. Fletcher, 1145 East Marquette Road, Chicago
- American road builders' association**
Sec. E. L. Powers, care of Good Roads, 11 Waverly Place, New York
Annual convention, Coliseum, Chicago, Feb. 9-12, '21
Annual meeting, New York, Nov. 15, '21
Annual convention, Chicago, Jan. 17-20, '22
- American short line railroad association**
Sec. T. F. Whittelsey, Union Trust Bldg., Washington, D.C.
- American society for municipal improvements**
Sec. Charles C. Brown, Dept. Public Works, St. Petersburg, Fla.
Annual convention, Southern hotel, Baltimore, Md., Oct. 24-28, '21
Annual convention, Cleveland, Ohio, Oct. '22
- American society for steel treating** (formerly American steel treaters' society)
Sec. W. H. Eisenman, 208 N. Wabash Ave., Chicago
Annual convention, Indianapolis, Sept. 19-24, '21
Annual convention, Detroit, Mich., Sept. 25-30, '22
- American society for testing materials**
Sec. C. L. Warwick, University of Pennsylvania, Philadelphia
Annual meeting, New Monterey hotel, Asbury Park, N.J., June 20-24, '21
Annual meeting, Atlantic City, N.J., June '22
- American society of agricultural engineers**
Sec. Raymond Olney, St. Joseph, Mich.
Annual meeting, Auditorium hotel, Chicago, Dec. 27-29, '21
- American society of civil engineers**
Sec. Elbert M. Chandler, United Engineering Societies Bldg., 33 W. 39th St., New York
Annual meeting, United Engineering Societies Bldg., New York, Jan. 11-20, '21
Annual convention, Houston, Texas, April 27, '21
Annual meeting, United Engineering Societies Bldg., Jan. 18-19, '22
- American society of heating and ventilating engineers**
Sec. Casin W. Ober, 29 W. 39th St., New York
Annual meeting, New York and Philadelphia, Jan. 25-28, '21
Semi-annual meeting, Cleveland, June 14-16, '21
Annual meeting, 29 W. 39th St., New York, Jan. 24-26, '22
- American society of lubricating engineers**
Sec. J. L. Overholt, 30 No. Michigan Ave., Chicago
Annual convention, Chicago, Oct. 12-13, '21
- American society of marine designers** (formerly American society of marine draftsmen)
Sec. B. G. Barnes, 47 Saville Ave., Quincy, Mass.
Annual meeting, New York, Nov. 17-19, '21
- American society of mechanical engineers**
Sec. Calvin W. Rice, 29 W. 39th St., New York
Spring meeting, Chicago, May 23-26, '21
Annual meeting, New York, Dec. 5-8, '21
Spring meeting, Atlanta, Ga., May 8-11, '22
- American society of naval engineers**
Sec. Navy department, Washington, D.C.
Sec. Commander J. S. Evans, Bureau of engineering, Navy Dept. Washington, D.C.
Annual meeting, Washington, D.C., Oct. 4, '21
- American society of refrigerating engineers**
Sec. William H. Ross, 154 Nassau St., New York
Meeting, Chicago, May 25-27, '21
Meeting, New York, Dec. 5-7, '21
- American society of safety engineers**
Sec. G. S. Wood, 29 W. 39th St., New York
Meeting, New York, Feb. 18, '21
Annual meeting, Cafe Boulevard, New York, Jan. 26, '22
- American society of sanitary engineering**
Sec. Aden E. Smith, Columbus, O.
Convention, Hotel Gibson, Cincinnati, Sept. 6-8, '21
- American specification institute**
Sec. Gardner C. Coughlen, 1144 American Bond & Mortgage Bldg., Chicago
Annual fall conference, Chicago, Dec. 9, '21
- American statistical association**
Sec. 222 Charles River Road, Cambridge, Mass.
- American steel treaters' society**
Now the American society for steel treating
- American supply and machinery manufacturers' association**
Sec. F. D. Mitchell, 4106 Woolworth Bldg., New York
Triple convention with the National supply and machinery dealers' association and the Southern supply and machinery dealers' association, Mulborough-Blenheim, Atlantic City, N.J., May 16-18, '21
- American valuation association**
Sec. Stanley Williamson, Linde Air Products Co., 30 E. 12d St., New York
Organization meeting, New York, June 16, '21
- American warehousemen's association**
Sec. C. L. Criss, 1110 Bessemer Bldg., Pittsburgh, Pa.
- American water works association**
Sec. John M. Diven, 153 W. 71st St., New York
Annual convention, Hollenden hotel, Cleveland, June 6, '21
Annual convention, Philadelphia, May 15-19, '22
- American welding society**
Sec. N. M. Kelly, 29 W. 39th St., New York
Annual meeting, United Engineering Societies Bldg., New York, April 25, '21
Annual meeting, United Engineering Societies Bldg., New York, April '22
- American wood preservers' association**
Sec. G. M. Hunt, Forest Products Laboratory, Madison, Wis.
Annual meeting, San Francisco, Jan. 25-27, '21
Annual meeting, Chicago, Jan. '22
- American zinc institute**
Sec. Stephen S. Tuthill, 27 Cedar St., New York
Annual meeting, Hotel Statler, St. Louis, May 9-10, '21
- Asphalt association**
Sec. J. E. Pennybacker, 23 W. 43d St., New York
Annual convention, New York, April 13, '21
Prepares specifications for asphalt roads
- Associated advertising clubs of the world**
Sec. P. S. Florea, 110 W. 40th St., New York
Annual convention, Atlanta, Ga., June 12-16, '21
Annual international convention, Milwaukee, Wis., June 11-15, '22
- Associated business papers, Inc.**
Sec. W. W. Macon, 56 Iron Age, 239 W. 39th St., New York
Annual meeting, Chicago, Oct. 24-26, '21
- Associated general contractors of America**
Sec. 111 W. 14th St., Chicago
National conference, Hotel Grunewald, New Orleans, La., Jan. 25-27, '21
National conference, Cleveland, O., Jan. 17-19, '22
- Associated metal lath manufacturers**
Commissioner, Wharton Clay, Edison Bldg., Chicago
- Association of Chinese and American engineers**
Sec. P. Y. Tsai, c/o The Chuchow-Chincho Railway, Peking

- Association of collegiate schools of architecture**
Sec. Clarence A. Martin, Cornell University, Ithaca, N.Y.
Annual meeting, Washington, D.C., May 9-11, '21
- Association of Edison Illuminating companies**
Sec. P. S. Miller, Electrical Testing Laboratories, East End Ave. & 80th St., New York
Annual meeting, Spring Lake Beach, N.J., Sept. 12-15, '21
- Association of employees' clubs**
Sec. J. Marshall, Alexander Hamilton Inst., 13 Astor Place, New York
Organization meeting, Times Bldg., New York, May 25, '21
- Association of iron and steel electrical engineers**
Sec. John F. Kelly, Empire Bldg., Pittsburgh
Meeting with American institute of electrical engineers, Pittsburgh, April 16, '21
Annual convention, Hotel La Salle, Chicago, Sept. 19-24, '21
Annual convention, Cleveland auditorium, Cleveland, O., Sept. 11-15, '22
- Association of national advertisers**
Sec.-Treas. John Sullivan, 15 E. 26th St., New York
Semi-annual meeting, Atlantic City, May 12-14, '21
Annual meeting, Lakewood, N.J., Dec. '21
Semi-annual meeting, Chicago, May 10, '22
- Association of official agricultural chemists**
Sec.-Treas. R. W. Balcom, Box 290, Pennsylvania Avenue Station, Washington, D.C.
- Association of railway electrical engineers**
Sec.-Treas. Joseph A. Andreucetti, Room 413, C & N W Terminal Station, Chicago
- Association of railway executives**
Chairman, Thomas DeWitt Cuvler, 61 Broadway, New York
- Atlantic deep waterways association**
Sec. Real Estate Trust Bldg., Philadelphia
Meeting, Savannah, Ga., Nov. 15-18, '21
- Aviation clubs**
A list of aviation clubs is published from time to time in Aviation
- Bakers and millers technical club**
Sec. C. A. Paesch, 958 Montana St., Chicago
- Boston society of civil engineers**
Sec. Richard K. Hale, (Acting Sec.) 715 Tremont Temple, Boston
- British iron and steel institute**
Sec. George C. Lloyd, 28 Victoria St., London, S.W. 1
- Building officials' conference**
Sec.-Treas. F. W. Lumis, Springfield, Mass.
Annual meeting, Cleveland, Ohio, April 24-30, '21
Annual meeting, Cleveland, Massillon, and Youngstown, Ohio, April 27-30, '22
- Canadian association of stationary engineers**
Sec.-Treas. Louis J. Ellis, Hamilton, Ont.
Annual convention, Ottawa, Ont., June 28-30, '21
Annual convention, Kitchener, Ont., June '22
- Canadian deep waterways and power association**
Sec.-Treas. Maj. Alex C. Lewis, Toronto
Annual convention, Hamilton, Ont., Nov. 1-2, '21
- Canadian electrical association**
Sec.-Treas. Eugene Vinet, Shawinigan Water & Power Co., Montreal, Canada.
Annual convention, Quebec City, June 15-17, '21
- Canadian good roads association**
Sec. George A. McNamee, 909 New Birks Bldg., Montreal, Que.
Annual convention, Halifax, Canada, May 10-13, '21
- Canadian institute of chemistry**
Sec.-Treas. Harold J. Roast, 393 Guy St., Montreal, Que.
Annual meeting, Montreal, Aug. 29-Sept. 3, '21
- Canadian institute of mining and metallurgy**
Sec.-Treas. G. C. Mackenzie, Montreal, Quebec
Annual meeting, Ottawa, Ont., March 2-4, '21
- Chamber of commerce of the United States**
Sec. D. A. Skinner, Mills Bldg., Washington, D.C.
Annual meeting, Hotel Traymore, Atlantic City, N.J., April 27-29, '21
- Chemical foundation**
Sec. R. Buffum, 81 Fulton St., New York
- City managers' association**
Sec. H. H. Freeman, Kalamazoo, Mich.
Annual meeting, Chicago, Nov. 14-16, '21
- City planning institute**
Sec. Flavel Shurtleff, 19 Congress St., Boston, Mass.
- Coal mining institute of America**
Sec. H. D. Mason, Jr., Chamber of Commerce Bldg., Pittsburgh, Pa.
Annual meeting, Pittsburgh, Pa., Dec. 7-9, '21
- Common brick manufacturers association of America**
Sec. Ralph P. Stoddard, Schofield Bldg., Cleveland, O.
Convention, New York, Jan. 31-Feb. 4, '21
Convention, Hotel Statler, St. Louis, Mo., Jan. 30-Feb. 1, '22
- Compressed air society**
Sec. C. H. Rohrbach, 50 Church St., New York
Annual meeting, New York, Dec. '21
- Compressed gas manufacturers' association**
Sec. John H. Hayes, 23 E. 26th St., New York
Annual meeting, Hotel Astor, New York, Jan. 17, '21
Annual meeting, United Engineering Societies Bldg., New York, Jan. 16, '22
- Concrete products association**
Sec. J. E. Montgomery, Chicago
Annual convention, Auditorium hotel, Chicago, Mar. 28-30, '21
- Conference on highway engineering and highway transport education**
Annual conference, University of Michigan, Ann Arbor, Mich., Feb. 12-17, '22
- Conference of state sanitary engineers**
Sec.-Treas. Theodore Horton, New York State Department of Health, Albany
Annual conference, Boston, June 1-2, '21
- Copper and brass research association**
Sec. W. S. Eckert, 25 Broadway, New York
Meeting, New York, Dec. 6, '21
- Cooperative league of America**
Sec. J. F. McNamee, Editor, Brotherhood of Locomotive Firemen and Enginemen's Magazine, Cleveland, O.
- Cooperative society of America**
Sec. 1554 Ogden Ave., Chicago
- Cost association of the paper industry**
Sec. T. J. Burke, 18 E. 41st St., New York
Annual meeting, Waldorf-Astoria hotel, New York, April 13, '21
- Direct mail advertising association**
Sec. Louis Balsam, Lewis Manufacturing Company, Walpole, Mass.
International convention and exposition, Springfield, Mass., Oct. 25-27, '21
- Drop forge supply association**
Sec.-Treas. A. W. Wurster, c/o Heppenstall Forge & Knife Co., Philadelphia, Pa.
Annual convention, held jointly with American drop forge association, Chicago, June 22-24, '21
- Electric associations**
A complete directory of electrical associations with convention dates and secretaries is to be found in the first issue of each month of the Electrical World
- Electrical manufacturers' council**
Sec. Frederick Nicholas, 522 Fifth Ave., New York
- Electrical safety conference**
Sec. Dana Pierce, 25 City Hall Place, New York

- Electrical supply jobbers' association**
Sec. Franklin Overbagh, 411 South Clinton St., Chicago
- Engineering advertisers' association**
Sec. D. T. Eastman, 208 S. La Salle St., Chicago
Annual meeting, Chicago, March 8, '21
- Engineering foundation**
Sec. Alfred D. Flinn, 29 W. 39th St., New York
- Engineering Institute of Canada**
Sec. Fraser S. Keith, 176 Mansfield St., Montreal, Quebec
Annual meeting, King Edward hotel, Toronto, Feb 1-3, '21
- Engineering society of western Pennsylvania**
Sec. Kenneth F. Treschow, 568 Union Arcade Bldg., Pittsburgh, Pa
- Engineers' club of Philadelphia**
Sec. H. B. Hopkins, 1317 Spruce St., Philadelphia
- Export publishers' association**
Sec. R. M. Dodson, editor of Pacific Ports, Central Building, Seattle, Wash.
- Federal highway council**
Sec. H. G. Shirley, Washington, D.C.
- Federated American engineering societies**
Sec. Lawrence W. Wallace, McLachlen Bldg., Washington, D.C.
Meeting of American engineering council, Syracuse, N.Y., Feb 14, '21
Annual meeting, Washington, D.C., Jan. 5-6, '22
- Federated engineers' development corporation**
Sec 154 Ogden Av., Jersey City, N.J.
Aim is to advise about and sponsor new inventions
- Franklin institute**
Sec. R. B. Owens, Franklin Institute, Philadelphia, Pa.
- Friction drive and engineering society**
Sec. Trens C. W. Kelsey, 817 West End Av., New York
Meeting, Indianapolis, Ind., Nov 3, '21
- Gas associations**
A list of the principal gas associations, with officers and place and date of annual meeting is published regularly in the Gas Age
- Geological society of America**
Sec. Edmund O. Hovey, American Museum of Natural History, New York
Annual meeting, Amherst, Mass., Dec 28-30, '21
- Governmental research conference**
Sec. Dr. L. D. Upson, 542 Griswold St., Detroit, Mich.
Meeting, Asheville, N.C., June 2-4, '21
- Great Lakes protective association**
Sec. George A. Marr, Rockefeller Bldg., Cleveland, O.
Annual meeting, Detroit, Mich., Jan. 21, '21
- Heating and piping contractors national association**
Sec. Henry B. Gomers, 50 Union Square, New York
Annual meeting, Boston Mass., May 30-June 2, '21
- Hydraulic society**
Sec. C. H. Rohrbach, 50 Church St., New York
- Illuminating engineering society**
Sec. Clarence L. Law, Irving Place and 15th St., New York
Annual convention, Rochester, N.Y., Sept. 26-30, '21
- Industrial cost association**
Sec. A. A. Alles, Jr., 1501 People's Bank Building, Pittsburgh
National industrial cost conference, East Aurora, N.Y., May 26-28, '21
- Industrial relations associations of America**
(formerly National association of employment managers)
Sec. E. A. Shaw (Acting Sec.), 671 Broadway, Newark, N.J.
- Annual convention, Waldorf-Astoria hotel, New York, Nov. 1-4, '21
- Institute for government research**
Sec. James F. Curtis, 818 Connecticut Ave., N.W., Washington, D.C.
An association of citizens for cooperating with public officials in the scientific study of government
- Institute of radio engineers**
Sec. A. N. Goldsmith, College of the City of New York, New York
Meeting, New York, Feb. 2, '21
- International association of fire engineers**
Sec. James T. Mulcahey, Yonkers, N.Y.
Directors' meeting, Atlanta, Ga., Mar. 30, '21
- International association of municipal engineers**
Sec. Clarence R. George, Houston, Tex.
Annual meeting, Colorado Springs, Colo., Sept. 6-9, '21
- International association of printing house craftsmen**
Sec. Louis M. Augustine, 38 White Ave., Hamilton, Md.
Annual convention, Coliseum, Chicago, July 25-30, '21
Convention, Boston, Mass., '22
- International association of street cleaning officials**
Sec. A. M. Anderson, 1340 Old Colony Bldg., Chicago
Annual conference, Hotel La Salle, Chicago, Aug. 10-12, '21
- International bureau of weights and measures**
Director, Charles E. Guillaume, St. Cloud, Seine-et-Oise, France
- International chamber of commerce**
Sec. Dr. Edward Dolleans (temporary sec.), University of Dijon, Dijon, France
21st annual meeting London, England, June 27-July 2, '21
Annual meeting, Rome, Italy, Sept 18-25, '22
- International commission on illumination**
Asst Sec J. W. T. Walsh, National Physical Laboratory, Teddington, England
Meeting, Paris, Sept. '21
- International electrochemical commission**
General Sec C. le Maistre, 28 Victoria St., Westminster, London, S.W., England
International body representing national electrical societies contributing to its support
- International mining convention**
Exec Chairman Henry M. Parks, Director, Oregon Bureau of Mines and Geology, Oregon Bldg., Portland, Ore.
Meeting, Portland, Ore., April 5-9, '21
Meeting, Nelson, B. C., June, '22
- International railway association**
Sec. L. Weissenbruch, 11 Rue de Louvian, Brussels, Belgium
9th congress, Rome, Italy, April 19-May 1, '22
- International railway fuel association**
Sec. J. G. Crawford, 702 E. 51st St., Chicago
Annual meeting, Hotel Sherman, Chicago, May, '21
Annual meeting, Chicago, May '22
- International street and interurban railway congress**
Sec. Dr. Arthur Eitel, Favoritenstrasse 9, Vienna
Organization meeting, Nuremberg, Nov 19, '20
Meeting, Vienna, May 29-June 3 '21
- International typographical union**
Sec. J. W. Hays, 640-50 Newton Claypool Bldg., Indianapolis
- International union of radio telegraphy**
Corresponding sec. of American section, Augustus Trowbridge, 1150 Connecticut Ave., Washington, D.C.
- Inventors' league of the United States**
Sec. George W. Whigelt, 114 Malden Lane, New York

Investment bankers' association of America
Sec. Frederick R. Fenton, 38 S. Dearborn St., Chicago

Annual convention, New Orleans, Oct. 31-Nov. 5, '21

Annual convention, Los Angeles, Calif., '22

Lak carriers' association

Sec.-Treas. George A. Marr, Rockefeller Bldg., Cleveland, O.

Annual meeting, Detroit, Mich., Jan. 20, '21

League of the Southwest

Sec. F. E. Weymouth, U.S. Reclamation Service, Denver, Col.

Meeting, Riverside, Calif., Dec. 8-10, '21

An organization for studying the problems connected with the development of the Colorado river

Lighting fixture dealers' society of America

Sec. J. L. Wolf, Builders' Exchange, Cleveland, Ohio

Annual convention, Milwaukee, Wis., Jan. 30-Feb. 2, '22

Manufacturers' aircraft association

Sec. S. H. Russell, c/o Curtiss Airplane & Motor Corporation, Garden City, L. I.

The collecting and disseminating of information regarding aeronautical activities and the publishing of the Aircraft Year Book, formerly duties of this association, have been taken over by the Aeronautical chamber of commerce of America. The Manufacturers' aircraft association will continue to handle the administration of the cross license agreements covering airplane patents.

Manufacturing chemists' association of the United States

Sec. John I. Tierney, Woodward Building, Washington, D. C.

Marine equipment association of America

Sec.-Treas. Robert B. Lea, c/o Sperdy Gyroscope Co., 40 Flatbush Ave., Brooklyn, N. Y.

Annual meeting, New York, Nov. 16, '21

Master boiler makers' association

Sec. Harry D. Vought, 95 Liberty St., New York

Convention, Planters' hotel, St. Louis, Mo., May 23-26, '21

Convention, Hotel Sherman, Chicago, May 23-26, '22

Mineralogical society of America

Sec. H. P. Whitlock, American Museum of Natural History, New York

Annual meeting, Amherst, Mass., Dec. 28-30, '21

Mining and metallurgical society of America

Sec. B. Britton Gottsberger, 115 Broadway, New York

Mississippi valley association

Sec. John M. Gill, Kansas City, Mo.

Joint conference with National drainage congress, Harrington hotel, Washington, D. C., Jan. 19-20, '21

Aim of the society is to promote the Valley's foreign commerce

National advisory committee for aeronautics

Sec. S. W. Stratton, 2722 Navy Bldg., 17th & B Sts., N.W., Washington, D. C.

National amateur wireless association

Sec. H. L. Welker, 326 Broadway, New York

National association of commercial organization secretaries

Pres. F. D. E. Babcock, Worcester, Mass.

Meeting, New Orleans, Oct. 24-26, '21

National association of cost accountants

Sec. Stuart C. McLeod, 233 Broadway, New York

Annual convention, Cleveland hotel, Cleveland, Sept. 14-16, '21

Annual convention, Atlantic City, Sept. 23-25, '22

National association of cotton manufacturers

Sec. H. C. Meserve, 45 Milk St., Boston

Annual convention, Copley-Plaza hotel, Boston, April '21

Fall meeting, Copley Plaza, Boston, Nov. 2-7, '21

National association of credit men

Sec.-Treas. J. H. Tregoe, 41 Park Row, New York

Annual convention, St. Francis hotel, San Francisco, June 14-18, '21

Annual convention, Indianapolis, June 5, '22

National association of electrical contractors and dealers

Sec. Farquison Johnson, 15 W. 37th St., New York

Anniversary convention, Buffalo, N. Y., July 20, '21

Annual convention, Cincinnati, O., Oct. 11, '22

National association of engine and boat manufacturers

Sec. Ira Hand, 29 W. 39th St., New York

Annual meeting, New York, Feb. 23, '22

National association of manufacturers

Sec. George S. Boudinot, 30 Church St., New York

Spring meeting, Waldorf-Astoria hotel, New York, May 16-18, '21

National association of master plumbers

Sec. Chas. E. Dreier, 707 E. 47th St., Chicago

Annual convention, New Orleans, June 7-9, '21

Annual convention, Detroit, Mich., June 6-8, '22

National association of masters, mates, and pilots

Sec. M. D. Tenniswood, 308 Vine St., Camden, N. J.

National association of practical refrigerating engineers

Sec. Edward H. Fox, 5707 West Lake St., Chicago

Annual convention, Hotel Lorraine, Philadelphia, Nov. 30-Dec. 3, '21

National association of railway and utilities commissioners

Sec. James B. Walker, 49 Lafayette St., New York

Annual convention, Atlantic City, N. J., Oct. 10-15, '21

Annual convention, Detroit, Mich., Sept. 26, '22

National association of stationary engineers

Sec. Frederick W. Raven, 417 S. Dearborn St., Chicago

Annual convention, Evansville, Ind., Sept. 12-17, '21

National automobile chamber of commerce

Sec. A. J. Brosseau, International Motor Company, 25 Broadway, New York

Annual meeting, New York, Oct. '21

National civic federation

Sec. D. L. Tease, 1 Madison Ave., New York

Annual meeting, Hotel Astor, New York, Feb. 14-16, '21

Annual meeting, Hotel Astor, New York, Jan. 30-31, '22

National coal association

Sec. W. B. Reed, Commercial National Bank Bldg., Washington, D. C.

Annual convention, White Sulphur Springs, W. Va., May 18-20, '21

National concrete stove silo association

Sec. W. G. Kaiser, 111 W. Washington St., Chicago

Annual convention, Chicago, Dec. 6-8, '21

National conference on city planning

Sec. Flavel Shurtleff, 19 Congress St., Boston, Mass.

Annual meeting, William Penn hotel, Pittsburgh, Pa., May 9-11, '21

National conference on highway traffic regulations

Sec.-Treas. D. R. Faries, Automobile Club of Southern California, 1344 South Figueroa St., Los Angeles, Cal.

Meeting, Washington, Jan. 10, '21

National cooperative convention. See Cooperative league of America

- National council of American Importers and traders**
Sec. Franklin Van Leer, Jr., 949 Broadway, New York
Meeting, Hotel Pennsylvania, New York, May 6, '21
- National council of lighting fixture manufacturers**
Sec. Charles H. Hofrichter, 231-233 Gordon Square Bldg., Cleveland
Annual convention, Elmwood Music Hall, Buffalo, N.Y., Feb. 14-19, '21
Midsummer meeting, West Baden, Md., July 6-8, '21
Annual convention, Auditorium, Milwaukee, Jan. 30-Feb. 4, '22
- National crushed stone association**
Sec. A. P. Sandles, 405 Hartman Bldg., Columbus, Ohio
- National district heating association**
Sec. D. L. Gaskill, Greenville, O.
Annual convention, Breakers hotel, Cedar Point, Ohio, June 22-24, '21
- National drainage congress**
Joint conference with Mississippi valley association, Harrington hotel, Washington, D.C., Jan. 19-20, '21
Annual meeting, St. Paul, Sept. 22-24, '21
Annual meeting, Kansas City, '22
- National editorial association**
Sec. George Schlosser, c/o Republican, Westington Springs, So. Dakota
Annual convention, Birmingham, Ala., Mar. 5, '21
- National electric light association**
Executive Manager, M. H. Aylesworth, 29 W. 39th St., New York
Annual convention of the Pacific coast section, Del Monte, Calif., May 25-27, '21
Annual convention, Drake hotel, Chicago, May 31-June 3, '21
- National electrical credit association**
Sec. Frederick P. Vose, 1350 Marquette Bldg., Chicago
Meeting, Richmond, Va., May 19-20, '21
- National federation of construction industries**
Sec. John C. Frazier, Drexel Bldg., Philadelphia
Annual meeting, Hotel Sherman, Chicago, March 24-25, '20
- National federation of export managers**
Chairman, Oren D. Gallup, Simond Mfg. Co., Fitchburg, Mass.
Organization meeting, New York, Feb. 17, '21
Annual meeting, Hotel Pennsylvania, New York, March 7, '21
- National fertilizer association**
Sec. John D. Toll, 1010 Arch St., Philadelphia
Annual convention, Greenbrier hotel, White Sulphur Springs, W. Va., June 20-25, '21
- National fire protective association**
Sec. Franklin H. Wentworth, 87 Milk St., Boston
Annual convention, San Francisco, June 14-16, '21
Annual convention, Atlantic City, May 9-11, '22
- National foreign trade council**
Sec. O. K. Davis, Hanover Sq., New York
Annual convention, Cleveland O., May 4-7, '21
Annual convention, Philadelphia, May 10-12, '22
- National founders' association**
Sec. J. M. Taylor, 29 S. La Salle St., Chicago
Annual meeting, Hotel Astor, New York, Nov. 16-17, '21
- National hardware association of the United States**
Sec. T. James Fernley, 120 High St., Boston
Annual convention, Marlborough-Blenheim hotel, Atlantic City, N.J., Oct. 17-22, '21
- National highway traffic association**
Sec. Elmer Thompson, Automobile club of America, 247 W. 84th St., New York
Annual convention, Detroit Athletic Club, Detroit, April 29, '21
- National housing association**
Sec. Lawrence Veiller, 105 East 22nd St., New York
- National Implement and vehicle association**
Sec. Henry J. Samelt, 72 W. Adams St., Chicago
Meeting, Chicago, Oct. 12-14, '21
- National industrial traffic league**
Sec. J. H. Beels, 111 W. Washington St., Chicago
Meeting, Cleveland, O., May 25-26, '21
Annual meeting, Hotel Sherman, Chicago, Nov. 10-11, '21
Annual meeting, New York, Nov. 15-16, '22
- National institute of inventors**
Sec. R. Nerenstone, 118 Fulton St., New York
- National lime association**
Sec. Mather Bldg., Washington, D.C.
Annual convention, Hotel Commodore, June 15-17, '21
- National machine-tool builders' association**
Sec. H. W. Dunbar, Norton Co., Worcester, Mass.
Spring convention, Hotel Traymore, Atlantic City, N.J., May 19-20, '21
Fall meeting, Hotel Astor, New York, Oct. 18-20, '21
Spring convention, Atlantic City, '22
- National marine league of the United States of America**
Sec. J. H. Kitchin, 268 Pearl St., New York
Annual meeting, New York, Jan. '22
Publishes for free distribution articles on American merchant marine problems
- National merchant marine association**
Sec. Munsey Bldg., Washington, D.C.
Annual convention, Washington, D.C., Jan. 20-21, '21
- National metal trades association**
Sec. Homer D. Sayre, People's Gas Bldg., Chicago
Annual convention, Hotel Astor, New York, April 18-21, '21
Annual convention, New York, April 19-20, '22
- National municipal league**
Sec. Harold W. Dodds, 261 Broadway, New York
Annual meeting, Chicago, Nov. 16-18, '21
Annual meeting, Chicago, Nov. '22
- National paper trade association**
Sec. William Ridgeway, 41 Park Row, New York
Annual meeting, Waldorf-Astoria hotel, New York, April 13, '21
- National paving brick manufacturers' association**
Sec. Maurice B. Greenough, Engineers' Bldg., Cleveland, Ohio
- National petroleum association**
Sec. C. D. Chamberlain, Guard Bldg., Cleveland
- National pipe and supplies association**
Sec.-Treas. George D. McIlvaine, Pittsburgh, Pa.
Convention, Hollenden hotel, Cleveland, May 10-11, '21
- National research council**
Sec. Vernon Kellogg, 1701 Massachusetts Ave., Washington, D.C.
- National rivers and harbors congress**
Sec. S. A. Thompson, Colorado Bldg., Washington, D.C.
- National safety council**
Sec. W. E. Worth, 168 North Michigan Ave., Chicago
Annual safety congress, Boston, Sept., '21
- National sand and gravel producers' association**
Sec. E. Guy Sutton, Williamsport, Ind.
- National sheet metal products association**
Sec. D. C. Jones, 1016 Commerce Bldg., St. Paul, Minn.
- National society for vocational education**
Sec. Miss Clothilde Ware, 140 W. 42d St., New York
Annual convention, Kansas City, Mo., Jan. 5-7, '22

National structural steel society

Sec. C. J. McIntosh, c/o Federal Bridge & Structural Co., Waukesha, Wis.
Meeting, Massillon, O., Aug. '21

National supply and machinery dealers' association

Triple convention with the Southern supply and machinery dealers' association, and the American supply and machinery manufacturers' association, Marlborough-Blenheim, Atlantic City, May 16-18, '21

National warm air heating and ventilating association

Sec. Allen W. Williams, Columbia Bldg., Columbus, O.
Annual meeting, Cleveland, O., May 23-24, '21

National wholesale dry goods association

Sec. A. T. Roman, Cooper, Coate & Casey Dry Goods Co., Los Angeles, Cal.

Natural gas association of America

Sec.-Treas. William B. Way, 904-5 Oliver Bldg., Pittsburgh, Pa.
Annual convention, Pittsburgh, May 16-20, '21

New England foundrymen's association

Sec. Fred S. Stockwell, Barbour-Stockwell Co., Cambridge, Mass.
Annual meeting, Exchange Club, Boston, Mass., Jan. 12, '21

New England water works association

Sec. Frank J. Gifford, Supt. Water Works, Dedham, Mass.
Annual meeting, Copley Square hotel, Boston, Jan. 12, '21
Annual convention, Bridgeport, Conn., Sept. 13-16, '21

North central electric association

Sec. H. E. Young, 15 South Fifth St., Minneapolis, Minn.
Annual convention, Duluth, Minn., June 14-16, '21

Pacific logging congress

Sec.-Treas. George M. Cornwall, Portland, Ore.
Annual meeting, Palace hotel, San Francisco, Oct. 26-29, '21

Pan American chamber of commerce

Sec. 42 Broadway, New York

Periodical publishers' association of America

Sec. Phillips Wyman, 200 5th Av., New York

Personnel research federation

Sec. Alfred D. Flinn, 29 W. 39th St., New York
This society will collect research information and coordinate the research activities of about 250 organizations

Plumbers' associations

A list of the various state associations, with convention dates, will be found in the weekly numbers of Domestic Engineering

Portland cement association

Gen. Mgr. Wm. M. Kinney, 111 West Washington St., Chicago

Pressed metal association

Sec. Illuminating Bldg., Cleveland, O.
Convention, Youngstown, O., April 27-29, '21

Purchasing agents' association

Sec. W. A. Tubman, c/o Theodore Kundtz Co., Cleveland, O.
Annual meeting, Cleveland, O., Jan. 20, '21

Radio club of America

Sec. Renville H. McMann, 150 Nassau St., New York

Radio research association

Sec. B. Hoffman, 233 South Third St., Brooklyn, N.Y.

Railway associations

A complete list of the various divisions and sections of the American railway association, and also of all the other important railway associations, with convention dates and secretaries, is to be found in the first number of each month of the Railway Age

Rice leaders of the world association

Pres. Ellwood Rice, 225 Fifth Ave., New York

Rubber association of America

Sec. A. L. Viles, 52 Vanderbilt Ave., New York
Annual meeting, Waldorf-Astoria hotel, New York, Jan. 10, '21

Russian engineering society

Sec. A. Pazdersky, 29 West 39th St., New York

Science service

Sec. Edwin E. Slosson, 530 W. 123d St., New York
An institution, comprised of the National academy of sciences, the American association for the advancement of science, and the National research council "for increasing the intelligence of the people in science by means of the journalistic press"

Smoke prevention association

Sec.-Treas. Frank A. Chambers, 5449 Woodlawn Ave., Chicago
Annual convention, Hotel Statler, St. Louis, Mo., May 31-June 3, '21

Society for electrical development, Inc.

Sec. Theodore E. Burger, 522 Fifth Ave., New York
Annual meeting, New York, May 10, '21
Annual meeting, New York, May '22

Society for the promotion of engineering education

Sec. Dean F. L. Bishop, Univ. of Pittsburgh, Pittsburgh, Pa.
Annual convention, New Haven, Conn., June 28-July 1, '21

Society of automotive engineers

Sec. Coker F. Clarkson, 29 W. 39th St., New York
Annual meeting, New York, Jan. 11-13, '21
Semi-annual meeting, West Baden, Ind., May 24-28, '21
Annual meeting, United Engineering Societies Bldg., New York, Jan. 11-14, '22

Society of economic geologists

Sec. Prof. J. Volney Lewis, New Brunswick, N.J.
Annual meeting, Amherst, Mass., Dec. 23-30, '21

Society of gas lighting

Sec. George B. Ramsdell, 128 E. 15th St., New York

Society of industrial engineers

Sec. W. G. Sheehan, Detroit, Mich.
Convention, Milwaukee, April 27-29, '21
Fall convention, Springfield, Mass., Oct. 5-7, '21

Society of naval architects and marine engineers

Sec.-Treas. Daniel H. Cox, 29 W. 39th St., New York
General meeting, United Engineering Societies Bldg., New York, Nov. 17-18, '21

Southern gas association

Sec.-Treas. George H. Smith, Baltimore, Md.
Annual convention, Savannah, Ga., May 24, '21
Annual convention, Greenville, S.C., May 16, '22

Southern metal trades association

Sec. W. E. Dunn, Jr., Atlanta, Ga.
Convention, Battery Park hotel, Asheville, N.C., June 13-14, '21

Southern pine association

Sec. J. E. Rhodes, New Orleans, La.

Southern supply and machinery dealers' association

Sec.-Treas. Alvin M. Smith, Smith-Courtney Co., Richmond
Triple convention with the National supply and machinery dealers' association and the American supply and machinery manufacturers' association, Marlborough-Blenheim, Atlantic City, May 16-18, '21

Southwest water works association

Sec.-Treas. E. L. Fulkerson, Waco, Tex.
Meeting, Shirwin hotel, Oklahoma City, Okla., May 9-12, '21

Southwestern electrical and gas association
 Sec. E. N. Willis, 403 Slaughter Bldg., Dallas, Texas
 Annual convention, Galveston, Texas, May 18-21, '21

Southwestern society of engineers
 Sec. C. E. Barlebaugh, 721 First National Bank Bldg., El Paso, Tex.

Stoker manufacturers' association
 Sec. J. G. Worker, Phoenix Manufacturing Co., Eau Claire, Wis.
 Annual meeting, Stockbridge, Mass., June 14-16, '21

Synthetic chemical manufacturers' association of the United States
 Pres. Chas. H. Herty, 35 E. 41st St., New York
 Organization meeting, Washington hotel, Washington, D.C., Oct. 28-29, '21

Taylor society
 Sec. H. S. Person, 29 W. 39th St., New York
 Meeting, Hotel Statler, Cleveland, May 19-21, '21
 Fall meeting, New York, Dec 1-3, '21
 To promote the science and art of administration and of management

Technical association of the pulp and paper industry
 Sec. Hugh P. Baker, 18 E. 41st. St., New York
 Annual meeting, Waldorf-Astoria hotel, New York, April 12-19, '21

Telephone pioneers of America
 Sec. R. H. Starrett, 195 Broadway, New York
 10th anniversary celebration and annual meeting, Hotel Statler, St. Louis, Mo, Oct 24-25, '21

Textile exhibitors' association
 Sec. 5 Park Square, Boston
 International textile exposition, Mechanics Bldg., Boston, Oct. 31-Nov. 5, '21

United engineering society
 Sec. Alfred. D. Flinn, 29 W. 39th St., New York
 Annual meeting, United Engineering Societies Bldg., New York, Jan. 26, '22

United States good roads association
 Sec J. A. Rountree, Birmingham, Ala.
 Annual convention, Greensboro, N.C., April 18-23, '21

United States potters' association
 Sec.-Treas Charles F. Goodwin, East Liverpool, Ohio
 Annual convention, Willard hotel, Washington, D.C., Dec. 5-10, '21

Water power league of America, Inc.
 Sec.-Treas. Frederick L. Long, 114 Nassau St., New York
 Annual meeting, New York, Jan 18, '21
 Conference, Waldorf-Astoria, New York, June 21-22, '21

Western association of electrical inspectors
 Sec. William S. Boyd, 175 West Jackson Blvd., Chicago
 Annual convention, Hotel Statler, Detroit, Mich, Jan 25-28, '21

Western society of engineers
 Sec. E. S. Nethercut, 1736 Monadnock Bldg., Chicago
 Meeting, Chicago, Mar. 28, '21

List of Periodicals Indexed

- Administration**—Administration. \$5; single numbers 50c. Ronald Press Co., 20 Vesey St., New York.
- A S R E J**—A. S. R. E. Journal. \$3. American Society of Refrigerating Engineers, 154 Nassau St., New York.
- Aerial Age**—Aerial Age Weekly. \$4, single numbers 10c. Aerial Age Co., Inc., Madison Ave. & 40th St., New York.
Flying consolidated with Aerial Age Weekly beginning August 1, 1921.
- Aeronautical J**—Aeronautical Journal. £1 12s 6d, single numbers 2s 9d. Royal Aeronautical Society, 7, Albemarle St., Piccadilly, London, W. 1.
- Am Arch**—The American Architect and the Architectural Review. \$6, single numbers 35c. Architectural & Building Press, Inc., 243 W 39th St., New York.
- Am Cer Soc J**—American Ceramic Society Journal. \$8, single numbers 75c. American Ceramic Society, 211 Church St., Easton, Pa.
- Am Chem Soc J**—Journal of the American Chemical Society. \$7 50. Charles L. Parsons, sec., 1709 G St., N.W., Washington, D.C.
- Am Electrochem Soc Trans**—American Electrochemical Society Transactions. \$3. American Electrochemical Society, Bethlehem, Pa.
- Am Gas Assn**—American Gas Association. Second annual convention, 1920. 5 sections. American Gas Association, Inc., 130 East 15th St., New York.
- Am Gas Eng J**. See Am Gas J.
- Am Gas J**—American Gas Journal. \$3, single numbers 10c. American Gas Light Journal, Inc., 150 Nassau St., New York.
Formerly American Gas Light Journal, American Gas Engineering Journal.
- Am Ind**—American Industries. \$1, single numbers 15c. National Manufacturers Co., 50 Church St., New York.
- Am Inst Arch J**—Journal of the American Institute of Architects. \$5; single numbers 50c. Journal of the American Institute of Architects, 313 E 23d St., New York.
- Am Inst E E J**—Journal of the American Institute of Electrical Engineers. \$10, single numbers \$1. F. L. Hutchinson, sec., 33 W. 39th St., New York.
Formerly American Institute of Electrical Engineers Proceedings.
- Am Inst E E Pro**. See Am Inst E E J.
- Am Inst Min Bul**. See Min & Met.
- Am J Sci**—The American Journal of Science. \$6; single numbers 50c. American Journal of Science, New Haven, Conn.
- Am Lumberman**—American Lumberman. \$4; single numbers 25c. American Lumberman, Manhattan Bldg., 431 S Dearborn St., Chicago.
Not indexed since July 3, 1920.
- Am Mach**—American Machinist. \$5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av at 36th St., New York.
- Am Soc C E J**—Proceedings of the American Society of Civil Engineers. \$8. American Society of Civil Engineers, 33 W 39th St., New York.
- Am Soc Heat & V E J**—Journal of the American Society of Heating and Ventilating Engineers. \$3; single numbers 35c. American Society of Heating and Ventilating Engineers, 29 W 39th St., New York.
- Am Soc M E J**. See Mech Eng.
- Am Soc Refrigerating Eng J**. See A S R E J.
- Am Soc T M Pro**—American Society for Testing Materials. Proceedings. 2 parts, each \$6. American Society for Testing Materials, 1315 Spruce St., Philadelphia.
- Am Water Works Assn J**—Journal of the American Water Works Association. \$7. American Water Works Assn., Mount Royal and Guilford Avenues, Baltimore, Md.
- Americas**—The Americas monthly, gratis. National City Bank of New York, 55 Wall St., New York.
Discontinued publication with the July 1921 issue.
- Annalist**—The Annalist. \$5; single numbers * 10c. New York Times Co., Times Square, New York.
- Arch & Bldg**—Architecture and Building. \$3; single numbers 30c. William T. Comstock Co., 23 Warren St., New York.
- Arch Forum**—Architectural Forum. \$6; single numbers 60c. Rogers and Manson Co., 142 Berkeley St., Boston 17, Mass.
- Arch Rec**—Architectural Record. \$3, single numbers 35c. Architectural Record Co., 115 W 40th St., New York.
- Automobile Eng**—The Automobile Engineer. * 30s, Canadian subs 25s 6d, single numbers 2s 20. Tudor St., London E.C. 4.
- Automotive Ind**—Automotive Industries. \$3, single numbers 35c. Class Journal Co., 239 W 39th St., New York.
Formerly Automobile.
- Aviation**—Aviation and Aircraft Journal. \$4; single numbers 15c. Gardner-Moffat Co., Inc., 225 4th Av., New York.
- Blast F & Steel Pl**—The Blast Furnace and Steel Plant. \$2; single numbers 25c. Andersen Co., Inc., Thaw Bldg., 108 Smithfield St., Pittsburgh, Pa.
- Bldg Age**—Building Age. \$2, single numbers 25c. Building Age Publishing Corporation, 912-920 Broadway, New York.
- Boston Soc C E J**—Journal of the Boston Society of Civil Engineers. \$4 (ten numbers); single numbers 50c. Boston Society of Civil Engineers, 715 Tremont Temple, Boston.
- Brass W**—Brass World and Platers' Guide. \$1; single numbers 15c. Brass World Pub. Co., 153 Waverly Pl., New York.
- Brick & Clay Rec**—Brick and Clay Record. \$3, * single numbers 25c. Industrial Publications, Inc., 407 S Dearborn St., Chicago.
- Can Chem & Met**—Canadian Chemistry and Metallurgy. \$3, single numbers 40c. Westman Press, Ltd., 57 Queen St. W., Toronto, Canada.
- Can Eng**—The Canadian Engineer. \$3; single numbers 10c. Monetary Times Printing Co. of Canada, Ltd., Church & Court Sts., Toronto, Ont.
Not indexed since it assumed newspaper form, May 26, 1921.
- Carnegie scholarship memoirs**. See Iron & Steel Inst C S M.
- Chem Age**—Chemical Age. \$3; single numbers * 50c. McCready Pub. Co., 118 E 28th St., New York.
- Chem & Met Eng**—Chemical and Metallurgical Engineering. \$5; single numbers 25c. McGraw-Hill Co., Inc., 10th Av., at 36th St., New York.
Formerly Metallurgical and Chemical Engineering.
- Chem Soc J**—Journal of the Chemical Society. * £4. Gurney and Jackson, 33, Paternoster Row, London, E.C. 4.

* Indexed beginning January, 1921

- Chimie & Ind—Chimie & Industrie** 110 fr; single numbers 10 fr Société de Chimie Industrielle, 49, rue des Mathurins, Paris, France.
- Coal Age—Coal Age** \$3; single numbers 20c McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Color Tr J—Color Trade Journal** \$5, single numbers 50c Color Trade Journal, Inc., 103 Park Av, New York.
- Comm & Fin Chr—The Commercial & Financial Chronicle** \$10; single numbers 25c William B Dana Co., 138 Front St, New York.
- Concrete—Concrete** \$3, Concrete-Cement Age Pub Co., Telegraph Bldg., Detroit, Mich. Formerly published as Concrete-Cement Age.
- Deutsche Chem Gesell Ber—Berichte der Deutschen Chemischen Gesellschaft** \$7 50 R Friedländer & Sohn, Karlstrasse 11, Berlin, N.W., Germany.
- Dom Eng—Domestic Engineering** \$2 single numbers 10c Domestic Engineering Co., 1900 Prairie Av, Chicago.
- Econ Geol—Economic Geology** \$4 single numbers 65c Economic Geology Pub Co., 41 North Queen St, Lancaster, Pa.
- Elec J—The Electric Journal** \$2, single numbers 25c The Electric Journal, 1205 Keenan Bldg., Pittsburgh, Pa.
- Elec Ry J—Electric Railway Journal** \$4, single numbers 20c McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Elec R—Electrical Review and Industrial Engineer** \$3; single numbers 20c International Trade Press, Inc., 542 Monadnock Bldg., Chicago. Formerly Electrical Review and Western Electrician.
- Elec R (Lond)—Electrical Review** £2 1s 6d, Canadian subs £1 12s 6d, single numbers 6d 4, Tudate Hill, London, E.C. 4.
- Elec W—Electrical World** \$5, single numbers 25c McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Electrician—Electrician** £2 14s, single numbers 1s 2d 8 Bouverie St, London, E.C. 4.
- Engineer—Engineer** Thick paper ed £3 7s 6d, Canadian subs £3 3s, thin paper ed £3 3s, Canadian subs £2 18s 6d, single numbers 1s 3d Engineer, 33, Norfolk St, Strand, London, W.C. 2.
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- Eng & Contr—Engineering and Contracting** \$4; single numbers 20c Engineering and Contracting Pub Co., 9 S Clinton St, Chicago.
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- Eng & Min J—Engineering and Mining Journal** \$5; single numbers 25c McGraw-Hill Co., Inc., 10th Av at 36th St, New York.
- Eng Educ—Engineering Education** \$3 (ten numbers) Daniel I. Bishop University of Pittsburgh, Pittsburgh, Pa. Indexed beginning v 11, no 1, September, 1920.
- Eng N—Engineering News-Record** \$5, single numbers 25c McGraw-Hill Co., Inc., 10th Av at 36th St, New York. Engineering News consolidated with Engineering Record beginning April 5, 1917.
- Eng Soc W Pa—Proceedings of the Engineers' Society of Western Pennsylvania** \$5, single numbers 50c Engineers' Society of Western Pennsylvania, 605 Union Arcade Building, Pittsburgh, Pa.
- Factory—Factory** \$3; single numbers 25c A. W. Shaw Co., Cass, Huron and Erie Sts, Chicago.
- Flying—Flying** \$3; single numbers 25c Flying Aeron., Inc., 280 Madison Av, New York. Consolidated with Aerial Age Weekly beginning with August 1, 1921.
- Foundry—Foundry** \$3; single numbers 25c Penton Pub. Co., Penton Bldg., Cleveland, O.
- Gas Age—Gas Age-Record** \$3; single numbers 25c Robbins Pub. Co., Inc., 52 Vanderbilt Av, New York. Consolidation of Gas Age and the Gas Record.
- Gen Elec R—General Electric Review** \$3; single numbers 30c General Electric Co., Schenectady, N.Y.
- Génie Civil—Le Génie Civil** 85 fr, single numbers 2 fr 6, rue de la Chaussée-d'Antin, Paris (9^e), France.
- Good Roads—Good Roads** \$3, single numbers 10c E. L. Powers Co., 11 Waverly Place, New York. New series volume number was dropped with the July 6, 1921 number, and the old series volume number continued.
- Heat & Ven—Heating and Ventilating Magazine** \$2, single numbers 10c Heating and Ventilating Magazine Co., 1123 Broadway, New York.
- Ill U Eng Exp Sta Bul—Illinois University Engineering Experiment Station Bulletin Univ. of Ill., Urbana.**
- Ill U Eng Exp Sta Circ—Illinois University Engineering Experiment Station Circular Univ. of Ill., Urbana.**
- Illum Engr—Illuminating Engineer** 18s; single numbers 1s 1d Illuminating Engineering Pub Co., 32 Victoria St, London, S.W. 1.
- Illum Eng Soc—Transactions of the Illuminating Engineering Society** \$5, single numbers 75c Illuminating Engineering Soc., 29 W 39th St, New York.
- Ind Management—Industrial Management** \$3; single numbers 35c Industrial Management, 120 W 32d St, New York. Formerly Engineering Magazine.
- India Rubber W—India Rubber World** \$3, single numbers 35c India Rubber Pub Co., 25 W 45th St, New York.
- Inland Ptr—Inland Printer** \$4, single numbers 40c Inland Printer Co., 632 Sherman St, Chicago.
- Inst E E J—Journal of the Institution of Electrical Engineers** single numbers 10s 6d E & F. N. Spon, Ltd., 57 Haymarket, London, S.W. 1; Spon & Chamberlain, 123 Liberty St, New York. The Institution premises have been taken over by H. M. Government and the temporary offices are at 1 Albemarle Street, London, W. 1.
- Inst Pet Tech J—Journal of the Institution of Petroleum Technologists and Record of Transactions** single numbers 7s 6d Institution of Petroleum Technologists, 5 John St, Adelphi, Strand, London, W.C. 2.
- Int Labour R—International Labour Review** \$5, single numbers 60c International Labour Office, 7, Route de Pregny, Geneva, Switzerland.
- Int Marine Eng Sec Marine Eng**
- Iron Age—Iron Age** \$6, single numbers 50c Iron Age Pub Co., 239 W 39th St, New York.
- Iron & Steel Inst C S M—The Iron and Steel Institute Carnegie Scholarship Memoirs** E. & F. N. Spon, Ltd., 57 Haymarket, London, S.W. 1; Spon & Chamberlain, 123 Liberty St, New York.
- Iron Tr R—Iron Trade Review** \$6, single numbers 25c Penton Pub Co., Penton Bldg., Cleveland, O.
- J Account—Journal of Accountancy** \$4, single numbers 35c Journal of Accountancy, Inc., 135 Cedar St, New York.
- J Elec—Journal of Electricity and Western Industry** \$2 50, single numbers 25c McGraw-Hill Co of Cal., Rialto Bldg., San Francisco, Cal.
- J Fr Inst—Journal of the Franklin Institute** \$6, single numbers 60c Franklin Institute, Philadelphia.
- J Ind & Eng Chem—Journal of Industrial and Engineering Chemistry** \$7 50; single numbers 75c John Wiley & Sons, Inc., 1705 G St, N.W., Washington, D.C.
- J Ind Hygiene—The Journal of Industrial Hygiene** \$6; single numbers 75c Journal of Industrial Hygiene, 1 Divinity Av, Cambridge 38, Boston.
- J Phys Chem—The Journal of Physical Chemistry** \$4 Cornell University, Ithaca, N.Y.

LIST OF PERIODICALS INDEXED

xv

- Locomotive**—Locomotive. 50c; single numbers gratis; recent bound volumes \$1. Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
- Mach—Machinery**. Engineering edition \$3; single numbers 35c. Industrial Press, 140 Lafayette St., New York.
- Marine Eng**—Marine Engineering and Shipping Age. \$3; single numbers 35c. Aldrich Pub Co., 6 E. 39th St., New York.
Formerly International Marine Engineering
- Marine R**—Marine Review \$3, single numbers 25c. Penton Pub Co., Penton Bldg., Cleveland, O.
- Mech Eng**—Mechanical Engineering the Journal of the American Society of Mechanical Engineers. \$4; single numbers 50c. American Society of Mechanical Engineers, 29 W 39th St., New York.
- Metal Ind**—Metal Industry. \$1, single numbers 10c. Metal Industry Pub. Co., 99 John St., New York.
- Metal Work**. See Plumber and Steam Fitter and Sheet Metal Worker
- Min & Met**—Mining and Metallurgy. subs \$10, single numbers \$1, to members, public libraries, and educational institutions, \$5, single numbers 50c. F. F. Sharpless, sec. 29 W 39th St., New York.
Formerly Bulletin of the American Institute of Mining and Metallurgical Engineers
- Min & Sci P**—Mining and Scientific Press. \$1, single numbers 15c. Dewey Pub Co., 420 Market St., San Francisco, Cal.
- Mo U Sch Mines & Met Bul**—Bulletin of the University of Missouri. School of Mines and Metallurgy. Univ. of Mo., Rolla.
- Mo U Sch Mines & Met Bul tech ser**—Bulletin of the University of Missouri. School of Mines and Metallurgy. Technical Series Univ. of Mo., Rolla.
- Monthly Labor R**—Monthly Labor Review \$1.50, single numbers 15c. U.S. Bureau of Labor Statistics, Washington, D.C.
Prec to labor departments and bureaus and other offices connected with the administration of labor laws
- Motor Age**—Motor Age \$5, single numbers 35c. Class Journal Co., 59 E Madison St., Chicago.
Not indexed since October 21, 1920
- Munic Eng**—Municipal and County Engineering \$2; single numbers 25c. Engineering Pub Co., 702 Wulsin Bldg., Indianapolis, Ind.
- Munic J**. See Pub Works
- N E L A Bul**—National Electric Light Association Bulletin \$3. National Electric Light Assn., 29 W 39th St., New York
- Nat Pet N**—National Petroleum News \$5; single numbers 25c. National Petroleum Pub Co., 812 Huron Road, Cleveland, O.
- Nat Research Council Bul**—National Research Council Bulletin. National Research Council, 1701 Massachusetts Av., Washington, D.C.
- Nation's Business**—The Nation's Business \$3, single numbers 25c. Chamber of Commerce of the United States, Mills Bldg., Washington, D.C.
- N E Water Works Assn J**—Journal of the New England Water Works Association \$4; single numbers \$1.25. New England Water Works Association, 715 Tremont Temple, Boston
- Oil Paint & Drug Rep**—Oil, Paint and Drug Reporter \$5, single numbers 15c. Oil, Paint and Drug Reporter, 100 William St., New York.
- Paper**—Paper. \$5; single numbers 25c. Paper, Inc., 251 W 19th St., New York.
- Philos Mag**—Philosophical Magazine, and Journal of Science. single numbers 5s. Taylor and Francis, Red Lion Court, Fleet St., London.
- Phys R**—The Physical Review. Second Series. \$7; single numbers 75c. The Physical Review, Ithaca, N.Y.
- Plumber**—Plumber and Steam Fitter. \$2; single numbers 10c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St., New York.
Formerly published as part of Metal Worker, Plumber and Steam Fitter.
Title changed July 15, 1921 to Sanitary & Heating Engineering
- Pop Mech**—Popular Mechanics Magazine. \$3; single numbers 25c. Popular Mechanics Magazine, 6 N Michigan Av., Chicago.
- Power**—Power. \$3; single numbers 15c. McGraw-Hill Co., Inc., 10th Av at 36th St., New York
- Power Pl Eng**—Power Plant Engineering \$2; single numbers 15c. Technical Pub. Co., 537 S Dearborn St., Chicago.
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- Ptr Ink M**—Printers' Ink Monthly \$2; single numbers 25c. Romer Pub Co., Inc., 185 Madison Av., New York.
Indexed beginning v 2, no 1, December, 1920
- Ptg Art**—The Printing Art. \$4; single numbers 40c. The University Press, Cambridge, Mass.
Indexed beginning v 36, no 1, September, 1920
- Pub Roads**—Public Roads \$1, single numbers 10c. U.S. Department of Agriculture, Bureau of Public Roads, Washington, D.C.
- Pub Works**—Public Works \$3. Public Works, 243 W 39th St., New York.
Formerly Municipal Journal and Public Works
- Ry Ag**—Railway Age \$6, single numbers 25c. Railway Age Pub. Co., Woolworth Bldg., New York.
- Ry Mech Eng**—Railway Mechanical Engineer including the American Engineer. \$3; single numbers 35c. Simmons-Boardman Pub. Co., Woolworth Bldg., New York.
Formerly Railway Age Gazette. Mechanical edition.
- Ry R**—Railway Review. \$4, single numbers 25c. Railway Review, 537 S Dearborn St., Chicago, 30 Church St., New York.
Formerly Railway and Engineering Review.
- Safety Eng**—Safety Engineering \$3; single numbers 25c. Safety Press, Inc., 126 Maiden Lane, New York.
- Sanitary & Heat Eng**—Sanitary & Heating Engineering \$2; single numbers 10c. Edwin A. Scott Pub Co., Inc., 15 E 40th St., New York.
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- Sci Am**—Scientific American \$4; single numbers 35c. Munn & Co., 233 Broadway, New York.
Consolidation of Scientific American Weekly and Scientific American Monthly, beginning November, 1921
- Sci Am M**—Scientific American Monthly. \$7; single numbers 60c. Munn & Co., 233 Broadway, New York.
Now Scientific American; formerly Scientific American Supplement
- Sci Am S**. See Sci Am M
- Sheet Metal Worker**—Sheet Metal Worker. \$3; single numbers 15c. Edwin A. Scott Pub. Co., Inc., 15 E 40th St., New York.
A Consolidation of Metal Worker, Plumber and Steam Fitter and Sheet Metal
- Sibley J**—Sibley Journal of Engineering. \$3; single numbers 30c. Sibley College, Cornell Univ., Ithaca, N.Y.
- Soc Auto Eng J**—Society of Automotive Engineers. Journal \$5, single numbers 50c. Society of Automotive Engineers, Inc., 29 W 39th St., New York.
- Soc Ing Civils Bul**—Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils de France. Bulletin Hotel de La Société, 19, rue Blanche, 19 (9°), Paris, France.
- Special Lib**—Special Libraries. \$4; single numbers 50c. Special Libraries Association, 513 Fourteenth St., Washington, D.C.
- Stahl & Eisen**—Stahl und Eisen, Düsseldorf, Germany.
- Stevens Ind**—Stevens Indicator. \$1.50; single numbers 50c. Stevens Institute of Technology, Hoboken, N.J.
- System**—System. \$3; single numbers 25c. A. W. Shaw Co., Cass, Huron and Erie Sts., Chicago.

Textile World—Textile World. \$4. Bragdon, Lord & Nagle Co., 334 4th Av., New York.

Formerly published as **Textile World Record**, monthly at \$2; **Textile World Journal**

U S Agric Bul—United States, Dept. of Agriculture. Bulletin. Distributed free of charge. U.S. Dept. of Agriculture, Division of Publications, Washington, D.C.

Contributions from the Bureau of Chemistry, Forest Service and Office of Public Roads are indexed, also selected publications of other bureaus

U S Bur For & Dom Com—United States Bureau of Foreign and Domestic Commerce. Special agents series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur For & Dom Com misc ser—United States, Bureau of Foreign and Domestic Commerce. Miscellaneous series. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

U S Bur Labor Statistics Bul—United States Bureau of Labor Statistics. Bulletin. Distributed free of charge. U.S. Bureau of Labor Statistics, Washington, D.C.

U S Bur Mines Bul—United States Bureau of Mines. Bulletin. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Circ—United States Bureau of Mines. Miners' circular. U.S. Bureau of Mines, Washington, D.C.

U S Bur Mines Tech Pa—United States. Bureau of Mines. Technical paper. U.S. Bureau of Mines, Washington, D.C.

U S Bur Stand Circ—United States. Bureau of Standards. Circular. U.S. Bureau of Standards, Washington, D.C.

U S Bur Stand Sci Pa—United States. Bureau of Standards. Scientific papers. U.S. Bureau of Standards, Washington, D.C.

Per volume paper \$1.25; cloth \$1.50; foreign subscription, paper \$2, cloth \$2.10. Single numbers vary in price.

U S Bur Stand Tech Pa—United States. Bureau of Standards. Technologic papers. U.S. Bureau of Standards, Washington, D.C.

U S Geol S Bul—United States Geological Survey. Bulletin. Distributed free of charge. U.S. Geological Survey, Washington, D.C.

U S Nat Advisory Com for Aeronautics—United States National Advisory Committee for Aeronautics. Washington, D.C.

U S Sp Cons Rep—United States Special consular reports. U.S. Bureau of Foreign and Domestic Commerce, Washington, D.C.

W Soc E J—Journal of the Western Society of Engineers. \$3, single numbers 50c. Western Society of Engineers. 53 W Jackson Blvd., Chicago.

Wireless Age—The Wireless Age. \$2.50; single numbers 25c. Wireless Press, Inc., 326 Broadway, New York.

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Abbreviations of Publishers' Names Used in Book Titles

Am. Acad. of Pol and Soc Sci. American Academy of Political and Social Science, Station B, Philadelphia

Appleton. Daniel Appleton & Co., 29-35 W. 32d St., N.Y.; 533 S. Wabash Av., Chicago

Baird. H. C. Baird & Co., 2 W. 45th St., N.Y.

Blakiston. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia

Bobbs. Bobbs-Merrill Co., University Square, Indianapolis; 185 Madison Av., N.Y.

Century Co., 353 4th Av., N.Y.

Chemical Catalog Co., Inc., 1 Madison Av., N.Y.

Chemical Pub. Co. Chemical Pub. Co., Easton, Pa.

Doran. George H. Doran Co., 244 Madison Av., N.Y.

Doubleday. Doubleday, Page & Co., Garden City, N.Y.

Drake. Frederick J. Drake & Co., 1006 S. Michigan Av., Chicago

Dutton. E. P. Dutton & Co., 681 5th Av., N.Y.

Ginn. Ginn & Co., (Educational text-bks.) 15 Ashburton Place, Boston; 2301-2311 Prairie Av., Chicago; 70 5th Av., N.Y.

Harper. Harper & Brothers, Franklin Square, N.Y.

Heath. D. C. Heath & Co., 50 Beacon St., Boston; 231 W. 39th St., N.Y.; 623 S. Wabash Av., Chicago

Henley. Norman W. Henley Pub. Co., Putnam Bldg., 2 W. 45th St., N.Y.

Holt. Henry Holt & Co., 19 W. 44th St., N.Y.

Houghton. Houghton, Mifflin Co., 4 Park St., Boston; 16 E. 40th St., N.Y.; 2451-2459 Prairie Av., Chicago; 278 Post St., San Francisco

Knopf. Alfred A. Knopf, 220 W. 42d St., N.Y.

Lippincott. J. B. Lippincott Co., East Washington Square, Philadelphia

Longmans. Longmans, Green & Co., 443-449 4th Av., Cor. 30th St., N.Y.

McGraw-Hill. McGraw-Hill Bk. Co., Inc., 370 7th Av., N.Y.

McKay. David McKay, 604-608 S. Washington Square, Philadelphia

Macmillan. The Macmillan Co., 66 5th Av., N.Y.

Manual Arts Press, 237 N. Monroe St., Peoria, Ill.

Oxford. Oxford University Press (Clarendon Press) (American branch), 35 W. 32d St., N.Y.

Penton Pub. Co., 12th St. Cor. Chestnut, Cleveland, O.

Pitman. Sir Isaac Pitman & Sons, 2-6 W. 45th St., N.Y.

Putnam. G. P. Putnam's Sons, Putnam Bldg., 2-6 W. 45th St., N.Y.

Ronald Press. Ronald Press Co., Evening Post Bldg., 20 Vesey St., N.Y.

Routledge. Routledge, G. & Sons, Ltd., Broadway House, 68-74 Carter Lane, Ludgate Hill, E.C. 4

Scribner. Charles Scribner's Sons, 597 5th Av., N.Y.; 608 S. Dearborn St., Chicago

Spon. E. & F. N. Spon, Ltd., 57 Haymarket, London, S. W. 1, Spon & Chamberlain, 123 Liberty St., N.Y.

Stokes. F. A. Stokes Co., 443-449 4th Av., N.Y.

U. P. C. Book Co., Inc., 243 W. 39th St., N.Y.

Van Nostrand. D. Van Nostrand Co., 8 Warren St., N.Y.

Wiley. John Wiley & Sons, Inc., 432 4th Av., N.Y.

Industrial Arts Index

A Cumulative Index to Engineering, Trade and Business Periodicals and Selected Books and Pamphlets

January, 1920—December, 1921

Abaca. See Hemp, Manila

Abbott, William Lamont, 1861-

Leader in power-plant operation for power
51 667-8 Ap 27 '20

Abbreviations

Definitions of export quotations Am Mach
52:311-13 F 5 '20; Same. Textile World 57
1157-9 F 7 '20; Same abr Am Ind 20 37-9
Ja '20; Same abr. Automotive Ind 42:520-2
F 19 '20; Same abr. Paper 26:10, 24-5 Ag
25 '20

Exporting iron and steel, standard shipping
designations V. G. Iden il Iron Tr R 68
1657-61 Je 16 '21

See also Chemical symbols, Electric sym-
bols, Shorthand, Symbols

Abeel brothers, New York

Linking past and present with the use of
iron and steel in New York I. C. Kuntz
berg. Iron Tr R 69 286-8+ Ag 4 '21

Abercrombie and Fitch company

Building a reputation for authority by pro-
fessional service to customers C. B. Lar-
abee. Il Ptr Ink M 3 28-30+ Ag '21

Aberration

Transmission of waves through a symmetric
optical instrument I Roman Phys 11 18
62-77 Jl '21

Aberthaw construction company

Aberthaw construction co's instructions for
its field men Eng & Contr 55 67-8 Ja 19 '21

Ability

See also Efficiency, Industrial, Execu-
tive ability

Ability tests

Building a better force of workers gaging
applicants' skill will help you pick workers
better suited to the job, four trade tests
E. S. Benge Factory 25 1237-9 O 15 '20

Correlation between army intelligence test
and college records E. F. Coddington Eng
Educ 11 311-18 F '21

Mental tests. P. B. Ballard. 235p Hodder &
Stoughton, Ltd., London '20

Practical mental measurement R. M. Yerkes
diags Sci Am M 1:270-3 Mr '20

Prevention of fatigue in industry, psychologi-
cal tests and the reduction of necessary
fatigue. R. A. Spaeth. Ind Management 59:
311-13 Ap '20

Prevention of labor turnover H. G. Kenagy
Administration 2 464-8 O '21

Psychological examinations; new and prac-
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fitness. A. T. Poffenberger. Il Sci Am M
3:205-11 Mr '21

Psychological examining in the United States
army R. M. Yerkes, ed. 590p (Memoirs v.
XV) National academy of sciences, Wash-
ington '21

Psychological tests of industrial capacities
M. Tevis. Il Sci Am M 4:208-11 S '21

Psycho-technics in Germany. A. Graden-
witz. Il Am Mach 53:407-8 Ag 26 '20

Die psychotechnische eignungsprüfung und
ihre anwendung auf hüttenbetriebe Hüt-
tenhain and others. Stahl & Eisen 41:822-7
Je 16 '21

Putting the right man in the right job. Il
Textile World 59:866-7+ F 5 '21

Report of the administration of the Thur-
stone intelligence aptitude test to 800 stu-
dents in the school of engineering of the
University of Illinois. diags Eng Educ 11:
182-200 D '20

Right man in the right place in the army.
J. J. Swan. Mech Eng 41:423-8 My '19,
Excerpts. Eng & Contr 52:570-1 N 12 '19

Selection of mill workers by mental tests. A.
Otis. Sci Am M 4 271 S '21

Simple tests for selecting office workers. E.
J. Benge. Ind Management 61:91-3 F 1 '21;
Same. Paper 28:13-14+ Ap 6 '21

Trade test principles in industry. M. Watson.
Ind Management 59:247-50 Mr '20

Trade tests; the scientific measurement of
trade proficiency J. C. Chapman 435p
Holt '21

See also Edison questionnaire

Abney, William, 1843-1920

Sketch Engineering 110:782 D 10 '20

Abnormalities (plants)

Singular phenomena in the kingdom of plants,
curious vegetable deformities. J. Bergner. Il
Sci Am M 1:121-3 F '20

Abrasive wheels. See Grinding wheels

Abrasives

Abrasive materials in 1918 F. J. Katz U S
Geol S Min Res of U S 1918,pt 2:1171-87
'20

Abrasive materials in 1919 L. M. Beach and
A. T. Coons. U S Geol S Min Res of U S
1919,pt 2 331-6 '21

Abrasive paper and cloth, their manufac-
ture for use in polishing metals. P. W.
Blair Metal Ind 18 268-9 Je '20

Abrasives in 1920 J. V. Lewis. Eng & Min J
111 154 Ja 22 '21

Artificial abrasives, the manufacture of, in
the electric furnace abstract C. J. Brock-
bank Am Cer Soc J 3 518-19 Je '20

Decreased use of abrasives Iron Age 106:
1470 D 2 '20

Grinding and polishing materials. F. J. Katz.
U S Geol S Bul 666:61-3 '19

Grinding in the automotive industry. P. M.
Heldt. diags Automotive Ind 45:265-8 Ag 11
'21

New aluminous abrasive. O. Hutchins. Il Am
Mach 52 113-14 Ja 15 '20; Same. Iron Age
105:873-4 Mr 25 '20; Same cond. Chem &
Met Eng 22:565 Mr 24 '20

Review of the abrasive materials situation in
1919. F. J. Katz. Eng & Min J 109 231-2 Ja
17 '20

See also Alundum; Carborundum, Garnet;
Grinding and polishing

Absenteeism (labor)

Are you overlooking important personnel
data? G. O. Swartz chart Ind Management
60:381-2 N '20

Attendance of workers in Moscow factories.
Int Labour R 1:223-30 F '21

Control of absenteeism. P. S. Florence. Ad-
ministration 1:634-46 My '21

Eliminating absenteeism. F. C. Smith. Ind
Management 59:164-5 F '20

Sickness and absenteeism in a manufacturing
plant. Monthly Labor R 11:1055-6 N '20

Absorbers, Electric. See Electric absorbers

Absorption

- Absorption of carbon monoxide by cuprous ammonium carbonate solutions.** W. R. Hainsworth and E. Y. Titus. *diag Am Chem Soc J* 43:1-11 Ja '21
- Absorption of gases in spray systems and towers.** E. M. Baker. *Chem & Met Eng* 22: 122-4 Ja 21 '20
- Absorption of oxides of nitrogen by nitric acid.** E. K. Rideal. *diags J Ind & Eng Chem* 12 531-8 Je '20
- Absorption par les liquides.** H. Vigneron. *Génie Civil* 78 476-7 Je 4 '21
- Determination of the sorption of both solvent and solute—preliminary; the system: benzene—iodine—charcoal.** A. M. Bakr and J. E. King. *diag Chem Soc J* 119:454-60 Ap '21
- Recovery of volatile solvents by the Breguet process.** M. Roulleux and R. G. Dort. *flow sheet Chem & Met Eng* 24:916-21 My 25 '21; *Discussion.* 25:93, 181 JI 20, AG 3 '21
- Selective absorption and its results.** *Sci Am M* 1:534 Je '20
- Soda lime as an absorbent for industrial purposes.** R. E. Wilson. *J Ind & Eng Chem* 12:1000-7 O '20
- Some aspects of the behavior of charcoal with respect to chlorine.** G. S. Bohart and E. Q. Adams. *diags Am Chem Soc J* 42:523-44 Mr '20
- Some factors governing the sorptive capacity of charcoal; sorption of ammonia by coconut charcoal.** J. B. Firth. *Chem Soc J* 119 926-31 Je '21
- Sorption of alcohol and water by animal charcoal.** J. Driver and J. B. Firth. *Chem Soc J* 119 1126-31 JI '21
- Sorption of hydrogen by amorphous palladium.** J. B. Firth. *Chem Soc J* 119 1120-6 JI '21
- See also Adsorption*

Absorption machine

- Refrigeration study course; absorption machine.** H. J. Macintire. *diags plan Power* 52 430-3 S 14 '20

Absorption of light

- Absorption of light by caoutchouc.** S. J. Lewis and B. D. Porritt. *India Rubber W* 64:496 Ap '21

Absorption process (gasoline)

- Absorption as applied to recovery of gasoline left in residual gas from compression plants.** W. P. Dykema and R. O. Neal. *il diags plan U S Bur Mines Tech Pa* 232 1-40 '20; *Excerpts Nat Pet N* 12:41-2+ Mr 24; 35+ Ap 7 '20

- Absorption gasoline.** *Engineering* 109 760-1 Je 4 '20

- Absorption of gasoline from casinghead gas by activated charcoal.** H. R. Auerwald. *diags Mech Eng* 43 601-2+ S '21

- Court decision expected to stimulate use of absorption process.** J. B. Gambrell, jr. *Nat Pet N* 13:21-2 JI 15 '21

- Absorption spectra.** *See Spectrum—Absorption spectra*

- Absorption tower packing.** *See Packing, Absorption tower*

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 Try this on your last year's advertisements. C W. Garrison. *Ptr Ink* 115:129-30 Ap 21 '21
 What's there for you in that other chap's success? Saxon house frocks G. D. Ward. *Ptr Ink* 115:109-10+ Je 23 '21
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 Booklets are coming back. E. Ramsay. *Ptr Art* 36 205-8 N '20
 Getting people to read your booklet through good typography W. A. Kittiedge. *Ptr Ink* M 2 23-4+ Mv '21
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 Institutional advertising by the historical method. *Ptr Ink* 111:25-7 Ap 22 '20
 Is advertising too high in the forehead? P. C. Gunton and J. Tarcher. *Ptr Ink* 114:109-10+ Ja 20 '21
 Is technical advertising too technical? S. C. Lambert. *Ptr Ink* 112:77-8+ JI 8 '20
 Just what is the public? J. H. Collins. *Ptr Ink* M 2 23-4+ D '20

Advertisements—Composition—Continued

Keeping copy down to earth. *Ptr Ink* 111:33-6 Ap 29 '20

Lazy copy. P. K. Marsh. *Ptr Ink* 110:25-7+ Ja 15 '20

Lecturing the prospect a doubtful practice. A. F. Edmondson. *Ptr Ink* 117:145-6+ O 13 '21

Making a product supreme in its own home town. F. Cook. *Ptr Ink* 114:19-20 Mr 31 '21

Making copy go fast. *Ptr Ink* 110:41-3 Ja 1 '20

Making one feature the main theme. A. L. Townsend. *Ptr Ink* 113:165+ N 25 '20

Making the inanimate object live in the advertising. A. L. Townsend. *Ptr Ink* 112:81-2 Ag 19 '20

Manufacturer builds on past performance when line is broadened. *Ptr Ink* 112:49-50+ Jl 22 '20

Measuring the copy to suit the calibre of the product. H. T. Mitchell. *Ptr Ink* 114:109-10 Mr 3 '21

Memory, the yardstick of advertising. T. H. Thompson. *Ptr Ink* 117:93-4 O 6 '21

Mr Crump gets an O. K. S. Dick. II *Ptr Ink* M 3:46+ S '21

Modern business writing; a study of the principles underlying effective advertisements and business letters. C. H. Raymond. 476p Century Co. '21

Muse at work in the copy department. P. K. Marsh. *Ptr Ink* 112:25-7+ Jl 8 '20

New angles that help to keep advertising interesting. G. H. Wicker. *Ptr Ink* M 3:44+ Jl '21

New selling point markets an old product. T. Russell. *Ptr Ink* 110:68+ Ja 8 '20

New uses for old advertisements. R. B. Lockwood. *Ptr Ink* 112:57-8+ Jl 29 '20

O. Henry as a copy man. H. T. Mitchell *Ptr Ink* 116:73-4+ Ag 11 '21

Old news makes dead copy. H. J. Sherman. *Ptr Ink* 110:117+ Ja 15 '20

Once-upon-a-time as the copy theme. A. L. Townsend. *Ptr Ink* 114:159+ Ja 20 '21

One dozen experiences in present-day advertising. P. Sartorius. II *Ptr Ink* M 3:21+ N '21

Ought the boss to write the copy?; the example of President Jordan, of the Jordan motor car co. H. Wiseman. *Ptr Ink* 116:53-4+ Ag 4 '21

Pacifying the detail cranks. W. L. Larned. *Ptr Ink* 113:46+ D 9 '20

Parnassus and publicity. P. K. Marsh. *Ptr Ink* 111:33-6 Je 17 '20

Parts manufacturer advertises the whole product, the Ross gear company. *Ptr Ink* 113:154+ N 4 '20

Pitfalls of simplicity. H. J. Clarke. *Ptr Ink* 116:141 Ag 11 '21

Plea for better manners in copy. R. W. Johnson. *Ptr Ink* 112:65-6+ Ag 5 '20

Public's hunger for fact advertising. A. L. Townsend *Ptr Ink* 114:53-4+ F 17 '21

Punctured punctuation. *Ptr Ink* 112:109-10 Jl 23 '20

Putting the writer back into copy writer. V. C. Kitchen. *Ptr Ink* 111:53-4+ Ap 15 '20

Quiet voice in copy. R. Bostick. *Ptr Ink* 114:33-5 Mr 3 '21

Reading ads with your ears. P. Waxman. *Ptr Ink* 110:137-8+ Mr 11 '20

Reason why comes back. *Ptr Ink* 114:17-18 Mr 31 '21

Responsibilities of the teaser campaign. A. L. Townsend. *Ptr Ink* 113:41-2+ N 18 '20

Retail selling suggestions form keynote of business paper advertising. *Ptr Ink* 110:73-4+ Mr 11 '20

Reversing the letter of endorsement. *Ptr Ink* 112:145-6+ S 16 '20

Royal Tailors sell personality of their workmen to get foothold in big cities. *Ptr Ink* 113:77-8+ D 9 '20

Sales argument in story form. *Ptr Ink* 115:101-4 Je 23 '21

Selling by the printed word. R. Ruxton. *Ptg Art* 37:49-53, 427-30 Mr, Jl '21

Sells merchandise by advertising its advertising. C. M. Harrison. *Ptr Ink* 115:77-8+ Je 2 '21

Shakespeare on the copy staff. J. J. Buzzell. *Ptr Ink* 111:148-9 Je 3 '20

Should copy be written in English or American? H. Wiseman. *Ptr Ink* 115:33-4+ Ap 21 '21

Show me, says the reader of technical advertisements. R. B. Lockwood. *Ptr Ink* 111:69-70+ Ap 8 '20

Simple trick of writing newspaper ads. *Am Gas Eng J* 112:54-6 Ja 17 '20

Singing words. P. K. Marsh. *Ptr Ink* 113:33-6 N 18 '20

Single sales appeal, constantly advertised, built this business. J. A. Murphy. *Ptr Ink* 115:3-4+ Je 16 '21

Small-town merchant needs an adjusted selling appeal. H. E. Miles. *Ptr Ink* 112:101-2+ Jl 15 '20

Small-town people are no longer different. H. E. Miles. *Ptr Ink* 114:57-8 F 10 '21

Some antics of old-time advertising. F. D. Boyd. *Ptr Ink* 112:41-2+ S 9 '20

Some of the earmarks of copy that is written too easily. *Ptr Ink* 110:85-6+ F 19 '20

Statistics—using them effectively in advertising. S. C. Lambert. *Ptr Ink* 116:121-2 Ag 11 '21

Strategic words and phrases in the copy. A. Cobb, jr. *Ptr Ink* 112:105-7 Ag 19 '20

Structure of copy. *Ptg Art* 37:324-6 Je '21

Summing up the virtues of the merchandise. D. W. Henderson *Ptr Ink* 115:97-8+ Je 30 '21

Taking the writer out of copy writer. M. E. Feckler. *Ptr Ink* 111:167-8 Ap 1 '20

Talking Father Knickerbocker's own language. W. L. Larned. *Ptr Ink* 113:69-70+ D 30 '20

Tests to find the advertisable argument. B. Ashbrook. *Ptr Ink* 115:61-2+ Ap 7 '21

There are fundamental differences between advertising copy and literature. H. W. Patterson. *Ptg Art* 37:517-19 Ag '21

There is nothing obvious under the sun. P. C. Gunion. *Ptr Ink* 112:19-20 S 23 '20

Things as they are. R. H. Isbell. *Ptr Ink* M 2:63-4 Ja '21

Three times and over. R. M. Rhodes. *Ptr Ink* M 3:24 S '21

To-day's news in the advertisements. J. H. Payne. *Ptr Ink* 112:122+ Jl 1 '20

Trickless advertisement—a reply to lazy copy. *Ptr Ink* 110:33-6 Ja 15 '20

Untold stories that might make advertising more effective. W. L. Larned *Ptr Ink* 116:57-8+ S 15 '21

Use—a fruitful source of marketing and copy ideas. *Ptr Ink* 117:41-2+ O 20 '21

Wanted old-fashioned sales copy. *Ptr Ink* 115:61-2+ Mv 5 '21

Well, what does constitute a good idea? A. L. Townsend. *Ptr Ink* 114:73-6 Ja 6 '21

What is an advertisement? B. H. Jefferson. *Ptr Ink* M 3:34-5 Ag '21

What the customer looks for in merchandise. R. H. Isbell. *Ptr Ink* 113:93-4+ N 11 '20

What the steady stride policy in advertising is doing for Lowe brothers this year. R. Cole. *Ptr Ink* 116:105-6+ Jl 7 '21

When is it advisable to change the advertising appeal? R. H. Isbell. *Ptr Ink* 115:126+ Je 2 '21

When the big sales argument loses its punch. A. Cobb, jr. *Ptr Ink* 113:57-8+ N 18 '20

When there is nothing to say about the product—dig. *Ptr Ink* 110:33-4 Ja 1 '20

Where copy slants come from. F. H. Williams. *Ptr Ink* 112:146+ Ag 26 '20

Where some technical advertisers find unusual copy angles. R. B. Lockwood. *Ptr Ink* 110:169+ Mr 18 '20

Who is Jim Henry, the mythical salesman who writes Mennen shaving cream copy. W. A. McDermid. *Ptr Ink* 114:68-4 F 10 '21

Why imaginary talking-points should be avoided. R. W. Johnson. *Ptr Ink* 115:96+ My 26 '21

Why not advertise as though you meant it? R. N. Rhodes. *Ptr Ink* 113:25-7+ N 25 '20

Why not try English? I. Markel. *Ptr Ink* 115:109-10+ My 12 '21

Advertisements—Composition—Continued

Why there are no rules for writing advertisements. F. H. Williams. *Ptr Ink* 110:113-14+ F 26 '20

Writing advertising copy. J. Lightbody. *J Elec* 46:73-4 Ja 15 '21

See also Advertisements, Humorous; Advertisements, Pictorial

Coupons

Little coupon in the corner. W. L. Larned. *Ptr Ink M* 3:58+ S '21

Esthetic appeal

Beauty of design is made keynote of advertising policy of Oneida community. R. Cole. *Il Ptr Ink M* 2:15-18+ D '20

See also Candles—Advertising

Fashion appeal

It's used by the very best people. A. L. Townsend. *Ptr Ink* 116 65-6+ J1 21 '21

Graphs

Graphic methods in technical advertising. A. H. Richardson. *Ind Management* 61:288-91 Ap 1 '21

Headlines

Giving added emphasis to the headline text. W. L. Larned. *Ptr Ink* 117 49-50 O 27 '21

Headlines that ask a question. W. L. Larned. *Ptr Ink* 111 13-4 Je 3 '20

Headlines that make you read the copy. H. Wiseman. *Ptr Ink* 115 49-50+ My 26 '21

Health appeal

Advertising will put health on the map. C. E. Williams. *Ptr Ink* 112:130+ Ag 5 '20

Campaign seeks to introduce liquid soap in the home. R. Cole. *Ptr Ink* 110:77-8+ Ja 8 '20

Making a product a national issue. *Ptr Ink* 112 142+ S 9 '20

Illustrations

See Advertisements, Pictorial

Negative appeal

Square D company junks the negative appeal. *Ptr Ink* 113 81-2 N 11 '20

Successful marketing with a negative idea. *Ptr Ink* 116 53-4+ S 29 '21

Value of the negative appeal. *Ptr Ink* 112 12 S 2 '20

Novelties

See Advertising novelties

Novelty appeal

New ideas in the product that make advertising's work easier. *Ptr Ink* 115 49-50+ Ap 28 '21

Price justification

See Advertising, Educational

Price quoting

Advertising the price does sell coal. R. A. Hardy. *Sanitary & Heat Eng* 11:114 O 21 '21

Does a quality article suffer loss of dignity when priced? R. Cole. *Ptr Ink* 115 141-2+ My 26 '21

Emphasize price as big selling argument. C. Hendrickson. *Ptr Ink* 114 41-2 Ja 27 '21

How much will it cost?—does your advertising tell? R. H. Isbell. *Ptr Ink* 112:41-2+ S 16 '20

Is it time to advertise price as well as product? C. P. Russell. *Ptr Ink* 113 3-4+ N 18 '20

Quoting price by new unit broke down sales resistance of oak flooring. G. A. Nichols. *Ptr Ink* 113 93-4+ N 4 '20

Should the advertiser list the retail price? H. L. Winn. *Ptr Ink* 111:153-61 My 20 '20

What advertising means to me. *Ptr Ink* 114: 41-4 F 10 '21

When to advertise the price. C. P. Russell. *Ptr Ink* 113:41-2+ D 23 '20

Pride appeal

Pride appeal enables manufacturer to sell better merchandise; advertising of Belber luggage. A. S. Banks. *Ptr Ink* 115:154+ Ap 14 '21

Quality appeal

Converting knocks into sales-arguments. *Ptr Ink* 110:138+ Mr 4 '20

How a happy use of suggestion can put over the quality idea. G. D. Ward. *Ptr Ink* 113:25-7 O 21 '20

Unusual quality proves good talking point for fifty-cent collar. B. Gannon. *Ptr Ink* 116: 129-30+ J1 21 '21

What to do when product is near losing identity. C. M. Harrison. *Ptr Ink* 114:73-6 F 3 '21

Safety appeal

Trade ballot to determine whether or not copy is right. *Ptr Ink* 112:118+ S 2 '20

Specimens

Attainable ideals in newspaper advertising. *Inland Ptr* 66:488a-d Ja '21

Standardization

Can advertisement sizes be standardized? M. Martin. *Ptr Ink M* 3 16-18+ Ag '21

Testimonials

Bringing the testimonial-ad up to date. *Ptr Ink* 114:25-6 Mr 17 '21

Dealers' why not cash in on those magazine approvals? K. Maddock. *Il Elec* R 79 663-4 O 29 '21

New way of applying the testimonial. *Ptr Ink* 116 129-30+ Ag 18 '21

Thrift appeal

Advertising headlines that cater to the buyer's market. W. L. Larned. *Ptr Ink* 113: 57-8+ N 25 '20

Farm thrift—its significance to advertisers. *Ptr Ink* 112:122+ Ag 5 '20

Using the economy appeal to change a luxury into a necessity; silk underwear manufacturer averts sales slump. R. Cole. *Ptr Ink* 113:3-4+ O 14 '20

Typography

Advertisement frame or gilder vs the mere copy writer. F. T. Singleton. *Ptg Art* 37: 41-8 Mr '21

Anamorphosis in advertising design. F. T. Singleton. *Ptg Art* 37: 11-12 Ag '21

Art printing, personal expression, and the working of the beauty sense. *Il Ptg Art* 38: 64-8 S '21

Beauty, dignity, and display effectiveness. J. L. Frazier. *Il Inland Ptr* 67:785-8 S '21

Circumstances alter cases. J. L. Frazier. *Inland Ptr* 68 66-7 O '21

Copy that may be dressed well. E. R. Currier. *Ptr Ink* 111 169+ Je 10 '20

Debatable black background. W. L. Larned. *Ptr Ink* 114 57-8+ Mr 10 '21

Design the missing link between copy and printing. F. T. Singleton. *Ptg Art* 36:483-90 F '21

Does color in magazine advertising pay? *Ptg Art* 37:155-7 J1 '21

Effective typography increases sales force of advertisements. W. A. Kittredge. *Ptr Ink M* 2 73-4+ F '21

Following a formula in display to get continuity. *Ptr Ink* 112 93-4+ Ag 26 '20

How lettering can make an advertisement distinctive. W. L. Larned. *Ptr Ink* 115 61-2+ Je 16 '21

How the offset process helps feminize store literature. D. L. Smith. *Il Ptr Ink M* 3 50+ N '21

How to make the most of small space. J. F. Cameron. *Ptr Ink M* 2 14+ My '21

Invitation to advertisement designers with a questionnaire on J. Welsbach advertisement. *Il Ptg Art* 38 61-4 S '21

Is the golden section golden in advertising? R. M. Rhodes. *Ptr Ink M* 3:32-4+ J1 '21

Making an advertising layout. I. L. Heustein. *Ptg Art* 36:117-22 O '20

Advertisements—Typography—Continued

- Modern publicity; a plea for art in advertising. A. W. Dean. 70p Pitman '21
- Niceties of composition. Ptr Ink 116:53-4+ J1 14 '21
- Notable series of advertisements. J. L. Frazier. Inland Ptr 65:741-3 S '20
- Opening the gates to the garden—a talk on layout and art. H. Hale, jr. Inland Ptr 64:299-302 D '19
- Planning the double-column display. W. L. Larned. Ptr Ink 112:85-6+ Ag 26 '20
- Selling a high-priced car with good copy and typography. W. A. Kittredge. Ptg Art 37: 313-17 Je '21
- Setting type in unconventional form. W. L. Larned. Ptr Ink 111:25-8 My 6 '20
- Super-display by means of cleverness of layout. W. L. Larned. Ptr Ink 116:122+ S 29 '21
- Time to guard against waste of white space. Ptr Ink 110:10+ Ja 1 '20
- Typography of bank advertisements. T. D. MacGregor. Il Ptg Art 36:25-32 S '20
- Value of comparison. J. L. Frazier. Inland Ptr 65:609-11 Ag '20
- Variety without loss of identity. J. L. Frazier. Inland Ptr 66:65-7 O '20
- When to use the second color. E. R. Currier. Ptr Ink M 2:19-21 Ja '21

Advertisements, Classified

- Don't neglect the classified. R. Dickinson. Ptr Ink 115:81-2+ Ap 14 '21

Want ads

- Heart-throb copy that pulled results. Ptr Ink 116:50+ Ag 18 '21

Advertisements, Humorous

- Day of the humorist in advertising. A. L. Townsend. Ptr Ink 113:165+ D 9 '20
- Jazz copy in the technical field. C. B. McCuaig. Ptr Ink 113:120+ D 16 '20
- Laughter—what it means to advertisers. J. T. Bartlett. Ptr Ink 111:41-4 Ap 15 '20
- Wanted—a sense of humor. T. H. Thompson. Ptr Ink 112:41-2+ J1 22 '20

Advertisements, Pictorial

- Accessories that make the half-tone interesting. D. P. Foster. Il Ptr Ink 111:133-4+ Ap 15 '20
- Adopting an advertising character with no near relatives. Ptr Ink 113:113-14 O 7 '20
- Advertisements that rely on quaintness instead of size. Ptr Ink 110:189-90 Mr 18 '20
- Advertisements that sell without showing the product. D. Gridley. Ptr Ink M 3:49-50+ Je '21
- Advertisements unveil the daily life of the business man. Ptr Ink 113:153+ D 16 '20
- Advertising auto tires by atmosphere. Ptr Ink 111:105-6 Ap 8 '20
- Advertising cashes in on a gesture common among motorists. R. Cole. Ptr Ink 116:122+ S 22 '21
- Advertising comes back to Santa Claus. S. C. Lambert. Ptr Ink 113:149-50+ D 2 '20
- Advertising dress that creates individuality. L. Peake. Il Ptr Ink M 2:23-4 Ap '21
- Advertising's master of properties. W. L. Larned. Il Ptr Ink M 3:22-3+ N '21
- The American advertisement. A. W. Dean. Ptr Ink 116:93-6+ Ag 25 '21
- Appeal of color in advertising. Ptr Ink 113: 93 D 30 '20
- Architecture applied to the layout. E. L. Fitchner. Ptr Ink M 3:37 O '21
- Art directors' exhibition. E. E. Calkins. Il Ptr Ink M 2:15-17+ Ap '21
- Art embellishment changes entire character of an account. G. R. Allen. Ptr Ink 113:129-30+ O 28 '20
- Art of the illustration in miniature. Ptr Ink 113:41-2+ N 4 '20
- Artist's prerogative of standing pat on his illustrations. W. L. Larned. Ptr Ink 112:105-6 S 30 '20
- As-the-customer-sees-the-goods a theme for illustration. F. K. Knowlton. Ptr Ink 112:149+ S 2 '20
- Atmosphere for the commonplace product. W. H. Heath. Ptr Ink 110:65-6+ Mr 11 '20
- Aunt Jemima comes to life. G. A. Nichols. Ptr Ink 110:17-20+ Mr 18 '20

- Back to first principles in advertising display. Ptr Ink 114:65-6+ Mr 24 '21
- Bank that advertises itself by advertising. New England. D. G. Miller. Il Ptr Ink M 2:30-1+ D '20
- Black backgrounds and contrasts. Ptr Ink 110:152+ F 19 '20
- Campaign that cashes in on other firms' trademarks. Ptr Ink 110:99 Ja 22 '20
- Cartoons used to get sales argument to wholesalers. Ptr Ink 110:121-2 Ja 8 '20
- Catching the eye of the lazy reader. W. L. Larned. Ptr Ink 113:150-2 N 18 '20
- Character-study heads that put over the story. W. L. Larned. Ptr Ink 114:166+ Mr 17 '21
- Charts as the picture theme. Ptr Ink 113:153-4 O 21 '20
- Color and the camera. A. Krug. Il Ptr Ink M 2:30+ Ap '21
- Comedies of advertising. W. L. Larned. Ptr Ink M 2:36+ Ja; 40+ F '21
- Commercial art and the block print. F. Weitenkampf. Il Ptg Art 36:393-402 Ja '21
- Contrasts that sparkle up illustrations. W. L. Larned. Ptr Ink 117:65-6+ O 13 '21
- Conversational pictures sell quality to Fifth avenue and Main street. C. B. Larrabee. Ptr Ink M 2:15-16+ My '21
- Copy value of crowds. D. W. Kingsley. Ptr Ink M 2:33+ D '20
- Criticized advertisements that are popular, notwithstanding. C. Walters. Il Ptr Ink 110: 81-2 F 26 '20
- Decoration which builds an atmosphere for the product. G. Rosa. Il Ptr Ink M 2: 25-6+ F '21
- Department store engages leading artists to illustrate advertising. Ptr Ink 112:150+ S 23 '20
- Dramatized message. J. R. Coffee. Ptr Ink M 3:108+ N '21
- Drawings that print on uncoated papers. W. L. Larned. Ptr Ink 111:97-8+ Ap 22 '20
- Element of vivid contrast in illustrations. Ptr Ink 115:57-8+ Je 23 '21
- Elements that go to make art embellishment striking. W. L. Larned. Ptr Ink 112:57-8 S 16 '20
- Expert surgery of the art department. W. L. Larned. Ptr Ink 111:33-5 Ap 1 '20
- Famous churches in advertisements boost the sales of wedding rings. D. G. Baird. Ptr Ink 112:57-8 J1 8 '20
- Finding a significant theme for the illustration. W. L. Larned. Il Ptr Ink 111:65-6 Je 10 '20
- Finding advertising ideas in salesmen's demonstrations. A. H. Deute. Ptr Ink 110:138+ Ja 15 '20
- Finding the theme for the illustration. W. L. Larned. Il Ptr Ink 113:105-6+ O 28 '20
- Giving the photograph an art quality. L. Penke. Ptr Ink 116:123-4+ Ag 4 '21
- Gripping down the background. W. L. Larned. Il Ptr Ink 111:57-8+ Je 24 '20
- Heart throbs as the pictorial theme. W. H. Heath. Il Ptr Ink 113:157-8+ N 11 '20
- Hidden beauties of the photographic illustration. W. L. Larned. Ptr Ink 110:57-8+ Mr 25 '20
- How National oats came to adopt a new trademark. F. H. Morse. Il Ptr Ink 112:57-8+ S 9 '20
- How the eye follows a single line. Ptr Ink 115: 65-6+ Je 2 '21
- Idea-plus in the illustration. W. L. Larned. Ptr Ink 115:53-6 My 5 '21
- Illustration novelties that catch the eye. W. L. Larned. Ptr Ink 114:95-6+ Mr 31 '21
- Improved technique of newspaper illustrations. Ptr Ink 116:100+ S 22 '21
- Incongruous advertisements. M. B. Saunders. Ptg Art 37:318-20 Je '21
- Jumbo display that dominates. W. H. Heath. Ptr Ink 116:41-2+ J1 7 '21
- Labor—a gladiator of the pictures. A. L. Townsend. Ptr Ink 112:117-18+ J1 8 '20
- Line drawings popular in British publications. T. Russell. Ptr Ink 113:57-8 D 16 '20
- Line engravings that closely resemble product's appearance. T. Russell. Ptr Ink 116: 44+ J1 28 '21

Advertisements, Pictorial—Continued

Linking the aerial view with the advertising view. R. B. Lockwood. *Il Ptr Ink M* 2:14-15+ *Ja* '21

Little actors of the advertising camera. W. L. Larned. *Ptr Ink* 116:57-8+ *S* 1 '21

Making the illustration a mere adjunct to the text. J. L. Conkey. *Ptr Ink* 114:73-4+ *Mr* 3 '21

Making the pictorial contrast sharp. *Ptr Ink* 111:113-14+ *My* 20 '20

Making the still life live. K. B. White. *Il Ptr Ink M* 2:29-30 *My* '21

Man's primitive interest in tracks and feet. *Ptr Ink* 110:89-90+ *Ja* 29 '20

Marked improvement in newspaper advertising display. A. L. Townsend. *Ptr Ink* 113:122+ *O* 14 '20

Mother-and-child pictures to sell cocoa. *Ptr Ink* 112:49-50 *Jl* 8 '20

Opening up the package to show the goods. *Il Ptr Ink* 110:99-100+ *F* 19 '20

Peopling the advertisement with characters that really live. W. L. Larned. *Il Ptr Ink* 110:59-60+ *F* 12 '20

Picture comparisons that make a giant of the product. *Ptr Ink* 111:105-6+ *Ap* 1 '20

Pictures that look the reader straight in the eyes. *Ptr Ink* 112:33-4 *Ag* 12 '20

Please keep your pictures simple! *Ptr Ink* 111:81-2+ *Ap* 15 '20

Practical shading tints and their application in modern advertising illustrations, from the studios of Osgood & Co. 27p Chicago '20

Prestige for American merchandise built on exhaustive study. E. T. Tandy. *Il Ptr Ink M* 2:17-18+ *Ja* '21

Product may be dwarfed by wrong type of picture. W. L. Larned. *Ptr Ink M* 2:104+ *D* '20

Putting action into illustration. *Il Ptr Ink* 110:69-70+ *Il* '20

Putting poster punch in the picture. *Ptr Ink* 112:81-2 *Jl* 29 '20

Realism in mechanical illustrations. L. N. Burnett. *Il Ptr Ink M* 2:68+ *My* '21

Reincarnation of advertising characters. W. L. Larned. *Ptr Ink* 111:150+ *Ja* 6 '21

Safeguarding the line plate. *Ptr Ink* 112:57-8+ *Ag* 5 '20

Sales pictures, specimens. *Ptr Ink M* 3:27-30 *S* '21

Shorthand art illustrates new absorbine campaign. *Ptr Ink* 110:131-2 *F* 19 '20

Show all pictured equipment up-to-date, even though you don't make it. I. Mattson. *Ptr Ink* 112:19 *Ag* 12 '20

Show only the hands. *Il Ptr Ink* 110:96-7+ *Jl* 1 '20

Specialism. J. A. Heppes. *Ptg Art* 36:417-19 *Ja* '21

Spotlighting the advertised goods. W. L. Larned. *Ptr Ink* 111:60+ *My* 13 '20

Suggestion of life without figures. H. Williams. *Ptr Ink* 111:96+ *Ap* 29 '20

Superimposing the product on the main illustration. W. L. Larned. *Il Ptr Ink* 116:57-8+ *Ag* 25 '21

Techniques of advertising illustration. W. L. Larned. *Il Ptg Art* 36:473-82; 37:25-34, 121-9, 213-21, 305-12, 405-16, 509-16 *F-Ag* '21

That added ten per cent of cleverness in copy. W. L. Larned. *Ptr Ink* 112:97-8 *Ag* 12 '20

To make the factory picture reflect your product. K. B. White. *Il Ptr Ink M* 3:40-1+ *S* '21

Unprofessional advertising that builds for future sales. C. P. Russell. *Ptr Ink* 110:49-51 *F* 12 '20

Use of advertising picture confers no trademark monopoly. *Ptr Ink* 112:113-14 *Ag* 26 '20

Use of photograph in Swiss advertising. *Scl Am* 125:63 *Jl* 2 '21

Using pictures to tell a long copy story. *Ptr Ink* 115:138+ *My* 12 '21

Value of illustrative label. W. L. Larned. *Ptr Ink* 113:133-4 *Jl* 22 '20

Versatility—and a bottle of ink. *Il Ptr Ink* 110:17-20 *Mr* 11 '20

Vexatious problems of the art department. *Ptr Ink* 113:169-70+ *D* 16 '20

Viewpoint in looking at an advertising picture. C. H. Claudy. *Ptr Ink* 111:25-8+ *Ap* 8 '20

Visualizing the magnitude of a business with chart illustrations. R. D. Newton. *Ptr Ink* 112:107-8 *S* 9 '20

What becomes of your old drawings? suggestions for filing and rehabilitation of used original advertising illustrations. *Ptr Ink* 116:89-90 *Ag* 11 '21

What constitutes a good mechanical drawing? *Ptr Ink* 115:105-6+ *Ap* 14 '21

When is an illustration unconventional? W. L. Larned. *Ptr Ink* 113:165-6+ *O* 7 '20

When the photograph is live news. C. R. Knite. *Ptr Ink* 112:100-1 *Ag* 19 '20

See also Portraits, Posters, Rotogravure; Trade marks

Portraits

Advertisers' right to use portraits of political candidates. *Ptr Ink* 112:19-20 *S* 2 '20

Associating a product with prominent people. R. H. Falkner. *Il Ptr Ink M* 2:58+ *F* '21

Faces and fortunes. R. H. Isbell. *Ptr Ink M* 2:34+ *D* '20

Personalizing a machinery store. P. B. Findley. *Ptr Ink* 114:81-2 *F* 17 '21

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Making an advertisement score twice. A. McClure. *Ptr Ink* 112:109-11 *Ag* 5 '20

New uses for old advertisements. R. B. Lockwood. *Ptr Ink* 112:57-60 *Jl* 29 '20

Recapitulation of the campaign. W. L. Larned. *Ptr Ink* 114:41-3 *Ja* 20 '21

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Advertising enables manufacturer to control his production. R. Dickinson. *Ptr Ink* 117:19-20 *O* 27 '21

Advertising establishes profession of tree surgery. R. Cole. *Il Ptr Ink* 110:17-20+ *F* 19 '20

Advertising fills in wide sales gap by changing custom. Cyclone fence company revives enclosed lawn idea. G. A. Nichols. *Ptr Ink* 111:97-8+ *Mr* 21 '21

Advertising finds buyer for 27,000,000 pounds of surplus product. L. P. Wight. *Ptr Ink* 115:89-90 *My* 12 '21

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- Better understanding in the whole advertising business an essential. R. Dickinson. *Ptr Ink* 111:129-30+ Ap 29 '20
- Burglar-proofing a market after you have won it. *Ptr Ink* 110:81-2+ F 5 '20
- Can advertising shoulder the whole sales responsibility?; salesmen for multisified shampoo are really field representatives of advertising department. A. Cobb, Jr. *Ptr Ink* 113:57-8+ O 21 '20
- Catching up the loose ends in an advertising campaign. *Ptr Ink* 116:118+ S 1 '21
- Concern which is getting ready to advertise. R. W. Johnson. *Ptr Ink* 110 3-4+ Ja 15 '20
- Courage to go ahead in business. R. Dickinson. *Ptr Ink* 113:57-8+ D 9 '20
- Cut my commission and advertise! A. P. Roberts. *Ptr Ink* 111:89-92 My 20 '20
- Does local advertising pay? Metal Work 92: 389-90 O 3 '19
- Does the advertiser know advertising? A. L. Townsend. *Ptr Ink* 113:145-6+ O 28 '20
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- Get Susie Mulligan into the dealer's store R. Dickinson. *Ptr Ink* 115:113-14 Je 9 '21
- Getting dealer distribution when jobbers will not buy; makers of Kampkook use advertising C B Larrabee. *Ptr Ink* 116:101-2+ Ag 11 '21
- Guessing on advertising results. H. E. Agnew. *Ptr Ink* 113 42+ O 21 '20
- Has advertising ever advertised itself—adequately? W. L. Larned. *Ptr Ink* 113 73-4+ O 21 '20
- High cost of a non-advertising policy. J. E. Bullard. *Ptr Ink* 114 49-50+ Mr 10 '21
- Hook the newspaper copy up to the telephone. R. F. Baldwin. *Ptr Ink* 112:137+ S 9 '20
- How a raw material can be advertised; the Pacific lumber co employs advertising to scout for new markets J. A. Murphy. *Ptr Ink* 116:3-4+ Ag 18 '21
- How advertising aids the credit seeker. B. Ashbrook. *Ptr Ink* 115:3-4+ Ap 14 '21
- How advertising can overcome prejudice. E. M. Woolley. *Ptr Ink* 111:3-4+ Ap 8 '20
- How advertising has demonstrated its place in the economic system. J. I. Clarke. *Ptr Ink* 115:65-6+ Je 30 '21
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- How big English advertisers began. *Ptr Ink* 113:85-6+ O 14 '20
- How can a lost market be retaken? H. E. Agnew. *Ptr Ink* 112:105-6+ Ag 26 '20
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- How many of these advertising questions can you answer? *Ptr Ink* 115:42+ My 26 '21
- How post-war employee problem affects advertising. *Ptr Ink* 115 115-6 Ap 14 '21
- How the Gates rubber company snatched victory from defeat. P. Findlay. *Ptr Ink* 112:25-7+ Jl 15 '20
- How, to-day, should salesmen talk advertising? S. C. Lambert. *Ptr Ink* 114 3-4+ Mr 3 '21
- Ideas and the spirit board of directors. R. M. Rhodes. *Ptr Ink* 110 69-70+ F 19 '20
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- It is easier to make advertising progress during periods of business depression. J. A. Murphy. *Ptr Ink* M 3 13+ Ag '21
- It is ideas that move merchandise. R. R. Updegraff. *Ptr Ink* 112:33-6 S 16 '20
- Larger a business grows the more it must advertise. *Ptr Ink* 110:129-30 Mr 4 '20
- Local advertising and dealers' conferences supplement Willard campaign. C. M. Harrison. *Ptr Ink* 116:25-7+ Ag 4 '21
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- Suppose the turn will come in 1921! what of it? C. W. Hoyt. *Ptr Ink* 115:33-4+ D 2 '20
- Survey of merchandising urged. E. N. Hurley. *Iron Tr* 65 1676-7 Je 10 '20
- Talking turkey to the timid client. *Ptr Ink* 113 162+ O 21 '20
- Teach women what advertising does. C. Frederick. *Ptr Ink* 111 177+ Je 10 '20
- Touching advertisement. W. P. Kirkwood. *Inland Ptr* 67:190-2 My '21
- Truth, advertising and better merchandise. G. French. *Ptr Ink* 110:152+ F 12 '20

Advertising—Continued

Truth in advertising dominant note at Indianapolis convention. *Ptr Ink* 111:41-2+ *Je* 17 '20
 Untrue that eighty-four per cent of business failures in 1920 did not advertise. *Ptr Ink* 116:87-8 *Jl* 7 '21
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 What to do with the big advertising inventory. C. M. Lemperly. *Ptr Ink* 114 33-4 *F* 24 '21
 What, today, do dealers think of advertising? B. Ashbrook *Ptr Ink* M 3 33-4+ *N* '21
 What's wrong with distribution: the connection between sales and advertising. N. M. Clark System 39 673-5+ *Mv* '21
 When a business went stale by taking too much for granted. A. D. Albin *Ptr Ink* 111 161-2+ *Je* 3 '20
 When buying is three times removed. V. C. Kitchen *Ptr Ink* 114 80+ *Ja* 27 '21
 When it pays to persuade your competitor to advertise, baby chick business an industry where nearly everybody advertises. J. A. Murphy il *Ptr Ink* M 3:19-20+ *Je* '21
 Where advertising saves salesmen's work. W. H. Ingersoll. *Ptr Ink* 110 10, 12 1, 29 '20
 Where is advertising going? R. S. Durlstone *Ptr Ink* 112 65-6+ *S* 23 '20
 Which sex buys your product? C. P. Russell. *Ptr Ink* M 3 38+ *O* '21
 Why Kellogg has faith in advertising. *Ptr Ink* 111 17-18 *Mv* '20 '20
 Why our basic industries should advertise. J. E. Bullard *Ptr Ink* 111:113-14+ *Ap* 22 '20

See also Advertisements; Airplanes in advertising; Bank advertising; Billboards; Business; Catalogs; Community advertising; Containers; Electric signs; Good will (in business); Government advertising; House organs; Industrial relations—Advertising aids; Library advertising; Mail order business; Merchandizing; Milline; Money raising campaigns; Moving pictures in advertising; Municipal advertising; New York stock exchange—Advertising rules; Posters; Press agents; Propaganda; Recruiting and enlistment; Sales letters; Sandwich men; Seals; Commercial; Service (in industry); Show windows; Slogans *also* subdivision Advertising under the following subjects; Auctions; Automobile industry; Bakers and bakeries; Beds; Beverages; Blacuits; Bonds; Book industry and trade; Brick industry and trade; Brooms; Brushes; Building trades; Business streets; Butter trade; Candles; Candy trade; Cement; Chain stores; Chromel; Church furniture; Cigars; Clothes hangers; Clothing trade; Collars; Colleges and universities; Contractors; Corsets; Domestic appliances; Doughnuts; Electric fans; Electric industries; Electric railroads; Farm produce; Farmers; Flour trade; Fruit trade; Fur trade; Gas industry; Grocery trade; Hardware; Hosiery trade; Hotels; Ice; Insurance; Life; Insurance companies; Jewelry trade; Lino-leum; Lumber trade; Mail order business; Maps; Marshmallows; Mattresses; Milk; Condensed; Millinery; Mirrors; Mops; Moving picture industry; Mustard; Nuts; Salted; Olive oil; Olives; Optical trade; Overalls; Plumbing trade; Poultry; Print-

ing trade; Public utilities; Railroads; Retail trade; Salmon industry; Screws; Seasonal products; Shingles, Asbestos; Shipping; Shoe industry and trade; Silverware; Soft drinks; Soldering apparatus; Stone-ware; Street railroads; Sugar industry and trade; Tea; Technical products; Telegraph companies; Telephone companies; Terra cotta; Textile industry; Theaters; Tombstones; Tractor industry; Travel; Trust companies; Underwear; Vells; Wallpaper; Watches; Water companies; Wire fence; Woodwork; *also* American newspaper publishers association—Bureau of advertising; Association of national advertisers

Accounting

Keeping tab on how your advertising appropriation is going. *Ptr Ink* 113:81-2+ *N* 4 '20

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 Emotional appropriations may hurt advertising. E. N. Hurley *Ptr Ink* 111 10+ *Je* 17 '20
 Keep your advertising appropriation flexible. M. H. Wright *Ptr Ink* 115:10+ *Je* 2 '21
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 Reserve advertising fund for times of business depression. *Ptr Ink* 112 145+ *Jl* 22 '20
 Vital thing to know about advertising appropriations. J. Sullivan. *Ptr Ink* 115:41-2+ *Ap* 11 '21
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 Why small appropriations often fail. R. Walsh. *Ptr Ink* 112:57-8+ *Jl* 15 '20
 Wrigley announces half million increase in advertising appropriation for 1921. G. A. Nichols *Ptr Ink* 112 17-20 *S* 30 '20
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See Advertising and bankers

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Competitive products

Featuring competing lines in the same advertisement. A. McClure. *Ptr Ink* 111:113-14+ *Ap* 15 '20
 Should competitive products be featured in the same advertisement? *Ptr Ink* 113:10+ *O* 7 '20

Cost

How much is enough for a booklet? *Ptr Ink* 115 137-8 *An* 14 '21
 Measuring copy writer's pay by results obtained. *Ptr Ink* 115:110+ *My* 5 '21
 Wanted average cost per inquiry. *Ptr Ink* 115:137+ *Ap* 7 '21
 What the advertising dollar buys. H. L. Adams *Ptr Ink* 110 41-2+ *Mr* 11 '20

See also Advertising—Rates; Milline

Dealer cooperation

Advertising built on dealer tie-ups. E. T. Tandy *Ptr Ink* 113 17-20+ *N* 18 '20
 Basis on which automobile advertising is charged to dealers. A. L. Chambers. *Ptr Ink* 110:113-14+ *Mr* 18 '20
 Beaver Board broadens dealer electro service. L. H. Harvey. *Ptr Ink* 110:107-8 *Ja* 8 '20

Advertising—Dealer cooperation—Continued

- Dealer advertising to bridge the summer valley. R. Dickinson. *Ptr Ink* 115:41-2+ Je 23 '21
- Dealer copy that bristles with sales ideas. R. Cole. *Ptr Ink* 114:82+ Ja 6 '21
- Dealer helps that don't hinder. R. Dickinson. *Ptr Ink* 115:145+ My 19 '21
- Developing dealer co-operation from the dealer's side. W. K. Porzer. *Ptr Ink* 114:41-2+ Ja 6 '21
- Does turnover talk in advertising slow up the selling? G. A. Nichols. *Ptr Ink* 116:150+ Ag 18 '21
- Don't use the dealer as a ventriloquist figure! J. Katz. *Ptr Ink* 110 41-3 Ja 15 '20
- Getting the manufacturer's trade-mark inside. R. W. Johnson. *Ptr Ink* 115:73-4+ My 19 '21
- How shall dealer helps be distributed? D. Kirkland. *Ptr Ink* 113 133+ D 23 '20
- How to get your advertising displayed in the most conservative stores. *Ptr Ink* M 3 54+ S '21
- How we help our dealers sell. J. R. Ozanne; W. F. Hypes. System 39 392+ Mr '21
- How we make sure our dealers will advertise. G. W. Iverson. *Ptr Ink* 116 25-8 Ag 25 '21
- Keeping your ad aid service out of the dealer's W. P. B. E. T. Tandy. *Ptr Ink* 116: 97-8+ JI 7 '21
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- Stage managing the dealers' displays. R. Bostick. *Ptr Ink* 116:128+ Ag 4 '21
- This letter campaign gives personal touch to saw selling. C. M. Harrison. *Ptr Ink* 116: 101-2+ Ag 18 '21
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- Adding an allied product leads to new market. *Ptr Ink* 114 61-2+ Mr 31 '21
- Advertising that acts as a reception committee for the new product. *Ptr Ink* 112 81-2+ JI 22 '20
- After seventy-five years, successful firm adopts advertising. H. E. Agnew. *Ptr Ink* 112:81-2+ S 2 '20
- Baby product succeeds on elder brother's reputation. *Ptr Ink* 111:57-8+ Ap 1 '20
- Do your dealer customers scatter their buying? A. Cobb, Jr. *Ptr Ink* 114 81-2+ Mr 17 '21
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- Group advertising helps cash in on goodwill. G. A. Nichols. *Ptr Ink* 114:41-2+ Ja 13 '21
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- New uses add big general market to a restricted one, how Kenwood blankets and comfort products sprang from woolen felt belting. E. T. Tandy. *Ptr Ink* 116:97-8+ S '21
- Putting over an entire line on leader's reputation. *Ptr Ink* 116 75-6 Ag 25 '21
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- San-tox selects trade-mark which permits constant addition to line. *Ptr Ink* 111 41-4 My 27 '20
- Short, compact line means quick, paying turnover. C. James. *Ptr Ink* 112 33-4 S 30 '20
- To change name of product and preserve goodwill. *Ptr Ink* 112 117-18 N 25 '20
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- See also* Advertising—Leaders

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- Traffic regulations of advertising shipped with merchandise. *Ptr Ink* 111 126+ F 24 '21
- Uncle Sam likely to champion truth in advertising. *Ptr Ink* 110:125-6 F 26 '20
- Use of government endorsement for advertising purposes specifically prohibited by recent ruling. *Ptr Ink* 113 109-10 D 23 '20
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See also Advertisements Pictorial—Portraits, Advertising—Taxation, Advertising, Fraudulent, Trade names

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- Adding an advertiseable specialty to lead the unknown line. *Ptr Ink* 113 116+ O 7 '20
- Creating toilet preparations to sell big drug line. E. T. Tandy. *Ptr Ink* 115:33-4+ My 26 '21

See also Advertising—Family of products

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- Building the contest around the dealer. *Ptr Ink* 117 129-30 O 27 '21
- Intensive work with dealers keeps Blahon running at capacity. R. Cole. *Ptr Ink* 117 72+ O 6 '21
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Advertising—Prize contests—Continued

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 Agate line costs money in Oklahoma, too. T. F. McPherson. *Ptr Ink* 113:109-10+ N 18 '20
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 Hearst recommends doubling of advertising rates to save paper. *Ptr Ink* 111:117-18+ My 6 '20
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See also Milhne

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See also Advertising, Cooperative

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Advertising, Cooperative—Continued

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Advertising, Government. See Government advertising**Advertising, Institutional**

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Advertising, Institutional—Continued

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See also Publicity

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- See also Catalogs; Follow-up systems; Mail order business; Mailing lists; Sales letters

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Advertising, National—Continued

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Advertising, Professional. See Professional advertising

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Advertising

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Advertising agencies, American association of. See American association of advertising agencies

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See also Bank advertising

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See also Employment management—Advertising aids; Employment systems—Advertising; Industrial relations—Advertising aids

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See also Advertising, Fraudulent

Advertising funds. See Advertising—Appropriations

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Big sales from a small advertising appropriation. *Ptr Ink* 114 33-4 F 3 '21
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Advertising mediums—Continued

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See also Moving pictures in advertising

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Milline rate of a piece of cheese. *Ptr Ink* 117:149-50+ O 20 '21

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See also Airplane mechanics

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Aeroplanes. See Airplanes

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See also Aerial routes—Africa, South Africa

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See Railroads—Africa

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See also Agricultural engineering—Study and teaching

Consult the Agricultural Index for additional material

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- Test of all-metal Junkers' airplane wing.** *il Aviation* 11:480 O 24 '21
- Trials of Sperry high lift wing.** *il Aviation* 11:539 N 7 '21

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- Albatros 8-seater cabin monoplane. E. Hildesheim. *il* *diag* *Aviation* 10:505 *Ap* 18 '21
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- Angles of attack and air speeds during maneuvers E. P. Warner and F. H. Norton. *il* *diags* *U S Nat Advisory Com for Aeronautics* 1920 611-20 '21
- Ansaldo A-300C *il* *diags* *Aviation* 10.11-12 *Ja* 3 '21
- Ansaldo limousine. *il* *Aerial Age* 13:275 *My* 30 '21
- L'avion commercial allemand Sablatnig. *Génie Civil* 78:321 *Ap* 9 '21
- Avro triplane type 547. *il* *diags* *Aerial Age* 11 152-3 *Ap* 12 '20
- BaCo Skylark. *il* *Aviation* 10.626-8 *My* 16 '21
- Barnhart twin 15 Wampus-Kat. *il* *Aviation* 11 309-11 *S* 12 '21; *Aerial Age* 13 615-17 *S* 5 '21
- Bellanca announces five-seater. *il* *Aerial Age* 12:613 *F* 21 '21
- Bethlehem aircraft corporation Skylark. *il* *Aerial Age* 13 226-8 *My* 16 '21
- Bleriot Mammouth. *diag* *Aviation* 8:13 *F* 1 '20
- Bombing airplane becomes flying ambulance. *il* *Pop Mech* 35:847 *Je* '21
- Boulton & Paul commercial machine. *il* *diags* *Aerial Age* 11:290-2 *My* 10 '20
- Breguet Leviathan type XX. E. H. Lemonon. *diag* *Aviation* 10:532-4 *Ap* 25 '21
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- Bristol ten-seater aeroplane *il* *Engineer* 132: 73 *Jl* 15 '21; *Aerial Age* 13 487-8 *Ag* 1 '21; *Aviation* 11:229 *Ag* 22 '21
- British air limousine. *diags* plans *Automotive Ind* 41:1070-1 *N* 27 '19
- Cable laying by aeroplane. *Flying* 10:154 *My* '21
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- Comments on small airplanes competing for commercial aircraft. E. P. Warner. *Sibley J* 34:144-9+ *O* '20
- Commercial airplane L. B. Lent *Aviation* 11: 188-9 *Ag* 15 '21
- Commercial airplane development. *Sci Am* 122:696 *Je* 26 '20
- Commercial airplane in its present day development. G. E. Quisenberry. *il* *diag* plan *Automotive Ind* 42:998-1001 *Ap* 29 '20
- Cox-Klemin rebuilds Standard with Mercedes motor. *il* *Aerial Age* 14:31 *S* 19 '21
- Curtiss Eagle cabin plane. *il* *Aviation* 8:98 *Mr* 1 '20
- Curtiss Eagle commercial plane with Liberty engine. *il* *Automotive Ind* 43:1215 *D* 16 '20; *Aviation* 9:483 *D* 27 '20
- Curtiss Eagle transport airplane. *il* *Aviation* 7:309 *N* 1 '19
- D. H. cantilever monoplanes. *Aerial Age* 13: 86 *Ap* 4 '21
- Davis-Douglas cloudster. *diag* *Aerial Age* 12:297 *N* 22 '20
- Dayton-Wright R. B. racer. *il* *Aviation* 9: 190 *O* 15 '20
- De Havilland 18. *Aerial Age* 12:494 *Ja* 17 '21
- DH-18 limousine. *Aerial Age* 13:230 *My* 16 '21
- De Pischoff avionette. J. J. Ide. *il* *Automotive Ind* 44:210 *F* 3 '21
- Design and structure of the German metal airplane. *diags* *Automotive Ind* 42:1360-2 *Je* 10 '20
- Development of giant aircraft in Germany. *il* *Aeronautical J* 25.100-16, 166-88 *F-Mr* '21
- Diminutive triplane flies nimbly with easy control. *il* *Pop Mech* 36:187 *Ag* '21
- Do fish swim as airplanes fly? M. Tevis. *Sci Am* 123:469 *N* 6 '20
- Dornier all-metal cantilever monoplanes. E. Hildesheim. *il* *Aviation* 10:721-3 *Je* 6 '21
- Dornier C III cabin airplane. *il* *diags* *Aviation* 10 720 *Je* 6 '21
- Dornier twin-engined monoplane, type G. 1. *Aerial Age* 13:422 *Jl* 11 '21
- Dutch passenger monoplane displays new features. *il* *Pop Mech* 36 652 *N* '21
- Dynamics of the airplane. K. P. Williams. 138p Wiley '21
- Early aeroplanes *Aerial Age* 13:499 *Ag* 1 '21
- Edmond de Marcay aeroplanes *il* *Aerial Age* 11 869-70 *S* 6 '20
- Farman Goliath transport airplane. *il* *diags* *Aviation* 7:477-9 *Ja* 1 '20
- Fiat airplane and engine. *il* *Aviation* 8:14 *F* 1 '20
- Fiat 10 passenger airplane *diag* *Aviation* 11: 139 *Ag* 1 '21
- Fiat twelve-passenger aeroplane. *diags* *Aerial Age* 11:185-7 *Ap* 19 '20
- Flying single and twin engined airplanes R. M. Hill *Aviation* 10 273-6 *F* 28 '21
- Fokker commercial airplanes *il* *Aviation* 9: 385-6 *D* 6 '20
- Fokker commercial express biplane type C II. *il* *Aerial Age* 13 151 *Ap* 25 '21; Same. *Aviation* 10 565-6 *My* 2 '21
- Fokker I III 6-seater monoplane. *il* *Aviation* 10 717-18 *Je* 6 '21; Same. *Aerial Age* 13: 271-2 *My* 30 '21
- Forerunners of the flying liners. *il* *Sci Am* 122 667 *Je* 19 '20
- French surgery airplane G. F. Paul. *il* *Aviation* 11 513 *O* 31 '21
- Friesley Falcon cabin airplane *il* *Aviation* 10 656-7 *Mr* 23 '21; Same. *Aerial Age* 13: 225-6 *My* 16 '21
- Gallaudet C-3 Liberty tourist plane. *il* *Aerial Age* 11:771 *Ag* 16 '20
- General theory of the steady motion of an airplane. *Aviation* 11:204 *Ag* 15 '21
- German all-metal commercial machines. *Aerial Age* 13 302 *Je* 6 '21
- German sport monoplane. *il* *Aviation* 9:391 *D* 6 '20
- Glenn L. Martin commercial transport biplane. *diags* *Aerial Age* 12:392-4 *D* 20 '20; Same. *Aviation* 9:426-8 *D* 13 '20
- Grahame-White aero-limousine. *il* *diags* *Aerial Age* 12 46-7 *S* 20 '20
- Handley-Page type W 8 *il* *Aviation* 7:542 *Ja* 15 '20
- Hawa commercial triplanes B. R. Dierfeld. *il* *diags* *Aerial Age* 13:34-5 *Mr* 21 '21
- Henri Potez aeroplanes. *il* *Aerial Age* 11: 645-6 *Jl* 19 '20
- How the world found one hundred uses for aeroplanes H. Woodhouse *il* *Flying* 9:496-503, 561-8 *S-O* '20
- Huff-Daland HD-4 training airplane. *il* *Aviation* 11 368-9 *S* 26 '21
- Huntington motorcycle engined monoplane. *Aerial Age* 12:449, 473 *Ja* 8-10 '21
- Impressions of airplanes at the show. A. Klemin. *il* *diags* *Aviation* 8:158-62 *Mr* 15 '20
- International aero exhibition. *il* *Engineering* 110:74-9, 82 *Jl* 16 '20
- JL all-metal airplane comprises novel engineering features. *il* *Automotive Ind* 43:808-9 *O* 21 '20

INDUSTRIAL ARTS INDEX

Airplanes—Continued

- Jacuzzi commercial monoplane designed to carry pilot and six passengers. *Il Automotive Ind* 44 659-60 Mr 24 '21
- Jacuzzi seven-passenger monoplane. *J. H. Kauke. Il Aerial Age* 12 561-2 F 7 '21; Same. *Aviation* 10:228-9 F 21 '21
- L. W. F. owl freight plane. *Il Aviation* 8: 103 Mr 1 '20
- Laird Swallow. *Il Aviation* 9:119-20 S 15 '20; *Aerial Age* 12 253+ N 8 '20
- Lawson airplane C-2. *Il Aviation* 7:315-16 N 1 '19
- Lawson midnight airhner. *Il diags Aerial Age* 12:415-18 D 27 '20; Same. *Aviation* 10:17-18 Ja 8 '21
- Life of an airplane. *Automotive Ind* 42:821 Ap 1 '20, Same. *Am Mach* 52 879 Ap 22 '20
- Lincoln standard cruiser. *Il diags Aerial Age* 12 319-21 N 29 '20
- Lincoln standard speedster. *Il diags Aerial Age* 11:740-1 Ag 9 '20
- Linke-Hoffman central power plant giant biplanes E. Hildesheim. *Il Aviation* 7 391-3 D 1 '19
- Linke-Hoffman giant machines. *Il diags plan Aerial Age* 10 533-5 Ja 19 '20
- Loening special monoplane. *diags Aerial Age* 12:394-5 D 20 '20
- Louie. *Il sport biplane. Il Aviation* 8 367-8 Je 1 '20, Same cond. *Aerial Age* 11 434-5 Je 7 '20
- Mastery of the skies. *Il Sci Am* 123 378-9+ O 2 '20
- Modified Le Pere fighter. *Il diag Aviation* 11 221-2 Ag 22 '21
- Monoplanes or biplanes? A. Herhemont. *Il Aviation* 11 420-2 O 10 '21
- Morane-Saulnier parasol type A. R. *Aerial Age* 12 398 D 20 '20
- Multi-engined commercial airplanes. D. W. McIlhenny. *Aviation* 11 506-7 O 31 '21
- New Ansaldo transport airplane. *Il Aviation* 9 165 O 1 '20
- New commercial airplane designed in Europe. *J. J. Ide. Il Automotive Ind* 45 658 O 6 '21
- New commercial monoplane is quickly dismantled. *Il Pop Mech* 34 883 D '20
- New deal for the monoplane. *Fokkers passenger-carrying airplane. Il Sci Am* 123:569 D 4 '20
- New French commercial airplanes. *Aviation* 11:48 Jl 11 '21
- New Langley controversy. G. Brewer. *Il Aviation* 11 532. Discussion. C. M. Manly; C. D. Walcott. 11 532-5 N 7 '21
- New Longren biplane. *Il Aerial Age* 14:55-6 S 26 '21, *Aviation* 11 376-7 S 19 '21
- New plane aims to be flivver of the air. *Il Pop Mech* 36 705 N '21
- New planes advance commercial air possibilities. W. B. Stout. *Automotive Ind* 43: 201-3 Jl 29 '20
- New type airplane will try for coast-to-coast record. *Il Pop Mech* 36 12-13 Jl '21
- New Zeppelin-Staaken monoplane. *Il Aviation* 11 505 O 31 '21
- Nieuport-Delage biplane, type 30-T. *diags Aerial Age* 14:37 S 19 '21
- Notes on small sized aeroplanes. abstract. A. R. Weigh. *Aerial Age* 12 254 N 8 '20
- One-man airplane for everybody's pocket-book: the de Pischoff avionette. *Il Sci Am* 124:293 Ap 9 '21
- 1,000 h.p. Staaken monoplane. *Aerial Age* 13: 134 Ap 18 '21
- Orenco commercial and military types. *Il diags Aerial Age* 11:84-6+ Mr 29 '20
- Orenco type F 4-seater tourist plane. *Il Aviation* 8:278-81 My 1 '20; Same. *Aerial Age* 11:255-6 My 8 '20
- Our latest aerial creations. *Il Sci Am* 123: 129 Ag 7 '20
- Pacific Hawk commercial airplane. *Il diags Aviation* 9:47-8 Ag 15 '20
- Pioneer single-seater sportplane. *Il diags Aerial Age* 11:370-1 My 24 '20
- Pischoff avionette. H. M. Buckwald. *Il diags Aviation* 10:106-7 Ja 24 '21
- Plane that blows itself along. *diag Sci Am* 125:103 Ag 6 '21
- Possibilities of the large airplane. F. H. Norton. *diags Aviation* 10:48-50 Ja 10 '21
- Preparation of plane and motor for altitude flight. *Il Aerial Age* 12 142 O 11 '20
- Racing airplane of the future; reprint of a study of probable future developments, originally published in the *Scientific American* of Oct. 22, 1910. I. B. Walker. *Il Sci Am* 123:158+ Ag 14 '20
- Recent advances in aviation at McCook field. T. H. Bane. *Il Soc Auto Eng J* 8:18-25 Ja '21
- Rectilinear flight of aeroplanes. A. Rateau. *Mech Eng* 42:268-9+ Mv '20
- Revolutionary improvements in aeroplane construction announced by Handley Page. *Flying* 9 171 Ap '20
- Saulnier three-engined monoplane. *diags Aviation* 11 71-2 Jl 18 '21
- Short all metal Silver Streak. *Il diags Aviation* 9 217-19 N 1 '20
- Single-engined cabin airplanes. D. W. McIlhenny. *Aviation* 11 364-5 S 26 '21; Discussion. 11:489 O 24 '21
- La Vie exposition internationale d'aéronautique de Londres (9-20 juillet 1920). *Il diags plans Gémé Civil* 77 125-30 Ag 11 '20
- Skylark. *Il Aviation* 9 267 N 8 '20
- Slow speed airplane. F. H. Norton. *diags Aviation* 9 80-2 S 1 '20
- Small commercial airplanes of the British competition. E. P. Warner. *Aviation* 9 193-6 O 15 '20
- Smallest British airplane weighs 220 pounds. *Il Pop Mech* 33:181 F '20
- Some recent Farman aeroplanes. *Aerial Age* 11:38 S 19 '21
- Some recent German airplanes. *Il Aviation* 8 20, 21-2 F 1 '20
- Some requirements of modern aircraft. R. T. Glazebrook. *diags Engineering* 110 683-4 N 19 '20
- Sopwith Australia transport biplane. *Il diags Aerial Age* 10 691-5+ F 23 '20
- Sopwith commercial and sporting types. *Il Aerial Age* 11:219-20+ Ap 26 '20
- Spad Berlin. S 33. *Il diags Aerial Age* 13: 488-9 Ag 1 '21
- Speer amphibious triplane. *Il Aviation* 9 222-4 N 1 '20
- Speer messenger airplane. *Il diags plan Aviation* 9 285-6 N 15 '20
- Stinson greyhound. *Il Aerial Age* 11:117 Ap 5 '20
- Stout bat-wing limousine. *Il Aviation* 9:257 N 8 '20
- Stout bat-wing tested. *Aviation* 9 328 N 22 '20
- Stout internally trussed commercial plane of American design. *Il diags Automotive Ind* 43 1213-15 D 16 '20; Same. *Aerial Age* 12: 439-40 Ja 3 '21
- Stuntless-type aeroplanes; abstract. E. Meyer. *Mech Eng* 43 400 Je '21
- Survival of the fittest among airplanes. *Il Sci Am* 125 167 S 3 '21
- Tandem-plane aerial sedan may revolutionize flying. *Il Pop Mech* 35 838 Je '21
- Technical features of the new aircraft models. *diags Automotive Ind* 42:698-700 Mr 18 '20
- Ten-ton aluminum airplane. W. H. Hunt. *Il Pop Mech* 35 36-7 Ja '21
- Textbook of applied aeronautic engineering. H. Woodhouse. 324p Century '20
- Touring airplane and the variable camber wing. J. D. Hill. *diags Aviation* 9:159-60 O 1 '20
- Touring airplane has upper and lower berth. *Il Pop Mech* 33:184 F '20
- Trans-oceanic airplane; multiple engines and transmission gears as aids to continuous flight. *Il Sci Am* 123:471 N 6 '20
- Two new Hanriot airplanes. *Aviation* 11:373 S 26 '21
- Two recent French pursuit and racing planes. J. J. Ide. *Il Automotive Ind* 44: 209-10 F 3 '21
- Two-seater Avro Baby, type 543. *diags Aviation* 10:337-8 Mr 14 '21
- Unconventional sporting airplane a new French product. J. J. Ide. *Il Automotive Ind* 45:707-8 O 13 '21
- Unusual in passenger-carrying airplanes; the giant Staaken monoplane. A. Longville. *Il Sci Am* 123:609 D 18 '20

Airplanes—Continued

- Vickers aircraft works, Weybridge. *Il* Engineer 130:444-6 N 5 '20
- Vickers Viking IV amphibian. *diags* Aviation 10:597 My 9 '21
- Vickers Vimy aeroplane ambulance. *il* *diags* Aerial Age 13:131-2 Ap 18 '21
- Vickers-Vimy commercial airplane. *il* Aviation 7:312 N 1 '19
- Viking amphibious seaplane. *il* Engineering 111:486-7, 492, pl 23 Ap 22 '21
- Waterman type O X-5 racing monoplane. *il* Aviation 11:197 Ag 15 '21, *Same* Aerial Age 13:463-4 Jl 25 '21
- Waterman type 3-L400 airplane. *il* Aviation 9:191-2 O 15 '20; *Same*. Aerial Age 12:225-7 N 1 '20
- Westland limousine. *il* *diags* Aerial Age 10:495-6 Ja 12 '20
- Westland limousine aeroplane. *il* *diags* plans Engineering 111:196-7, 200 F 18 '21
- What Europe is doing in aviation. E. A. Dime. *il* Sci Am 122:489+ My 1 '20
- What should be done to increase the civil use of airplanes? J. F. Hayford. W Soc E J 25:238-52 Ap 5 '20
- What the all-metal airplane can do. *il* Sci Am 123:43 Jl 10 '20
- Winner of the London aerial derby, Mars I. *il* *diags* Aerial Age 14:7-8 S 12 '21
- World's largest airplane completed in Germany. *il* Pop Mech 23:890 Je '20
- Zeppelin Dornier C-3. Aerial Age 13:278 My 30 '21
- Zeppelin Staaken airplane. *il* Aviation 10:169 F 7 '21
- Zeppelin-Staaken all-metal monoplanes. Aerial Age 13:182 My 2 '21
- Zeppelin-Staaken 1000 hp monoplane. *il* *diags* Aviation 11:398-401 O 3 '21
- See also* Aeronautics; Aeronautics, Commercial; Aircraft; Airplane engines; Airplane propellers; Airplane stability and stabilizers; Airships; Aviation; Fish patrol, Aerial; Flying boats; Flying machines; Forest fire patrol, Aerial; Hangars; Hydrodrome; Ornithopter; Seaplanes; Torpedo-planes
- Carbureters**
- See* Carbureters
- Control**
- Automatic means of control for commercial airplanes. *il* Pop Mech 36:222 Ag '21
- Aveline automatic pilot. *il* *diag* Engineer 131:184-6 F 18 '21; Engineering 111:178-9 F 11 '21; Aerial Age 12:656-8+ Mr 7 '21
- Various possibilities in airplane flying controls. Automotive Ind 45:569 S 22 '21
- See also* Airplane stability and stabilizers
- Control surfaces**
- Design of aeroplane control surfaces, with special reference to balancing. H. B. Irving. *il* *diags* Aeronautical J 25:537-55 O '21
- Design of aeroplane control surfaces with special references to wing ailerons. H. B. Irving. Engineering 110:461-3, 493-4, 527-8 O 8-22 '20
- Design**
- Adjustable camber and variable angle of incidence. T. P. Leaman. *diags* Aviation 9:59 Ag 15 '20
- Aeroplane structural design. T. H. Jones and J. D. Frier. 267p Pitman '20
- Aeroplanes of consistent strength. A. J. S. Pippard. Engineering 109:133-4 Ja 30 '20
- Air liner is designed for commerce. *il* plans Automotive Ind 41:964-7 N 13 '19
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- Airplane stress analysis. A. F. Zahm and L. H. Crook. *diags* U S Nat Advisory Com for Aeronautics 1919:797-870 '20
- Airplane with variable wing surface area. A. Longville. *il* Sci Am 123:597 D 11 '20
- Analysis of wing truss stresses. E. P. Warner and R. G. Miller. *il* *diags* U S Nat Advisory Com for Aeronautics 1920:239-56 '21
- L'avion monoplane Staaken de 1 000 chevaux, des Chantiers Zeppelin. *il* *diags* plans Génie Civil 79:171-2 Ag 20 '21

- Cable lengths and fitting angles. N. L. Kearney. *diags* Aerial Age 10:724-5 Mr 1 '20
- Characteristics of design effecting production, operation and maintenance of aircraft. P. Bishop. Aviation 8:319-23 My 15 '20
- Correcting the longitudinal balance of JN-6H airplanes. Aviation 8:367-8 Je 1 '20
- Deflection of beams of non-uniform section. Aerial Age 13:543-6 Ag 15 '21
- Design of aeroplane control surfaces, with special reference to balancing. H. B. Irving. *il* *diags* Aeronautical J 25:537-55 O '21
- Design of aeroplane control surfaces with special references to wing ailerons. H. B. Irving. Engineering 110:461-3, 493-4, 527-8 O 8-22 '20
- Design of monocoque fuselages. A. Elmen-dorf. *diags* Aviation 9:112-14 S 15 '20
- Design requirements of commercial aviation. G. C. Long. Aerial Age 12:616-17, 642-3 Ja 21-21 '21, *Same*. Soc Auto Eng J 8:135-11 F '21, Discussion 8:419-21 My '21
- Determination of sweepback for line-up. T. P. Wright. Aviation 8:394 Je 15 '20
- Development of metal construction in aircraft. J. S. Nicholson. *il* *diags* Engineering 109:357-62, 375-8, 408-12 Mr 12-26 '20
- Effects of structure on a biplane. F. H. Norton. Aerial Age 14:104-4 O 10 '21
- \$5000 contest for designs for aeroplanes capable of carrying twenty, fifty, one hundred, one hundred and fifty, and two hundred tons of useful load planned by the Aerial League of America. *il* Woodhouse. Aerial Age 12:101-2+ O 4 '20
- Fuselage stress analysis. E. P. Warner and R. G. Miller. *diags* U S Nat Advisory Com for Aeronautics 1919:715-25 '20, *Same*. Aerial Age 11:119-22 Ap 5 '20
- Graphical method for the deflection of beams of non-uniform section. B. C. Boulton and H. M. Priest. *diags* Aerial Age 11:17-19 Mr 15 '20
- International aero exhibition. *il* (supp) *diags* Engineer 130:52-4, 62, 78-80, 86 Jl 16-23 '20
- Investigation of the compressive strength of spruce struts of rectangular cross section and the derivation of formulas suitable for use in airplane design. J. E. Boyd. U S Bur Stand Tech Pa 152:1-13 '20
- Load factors for aeroplanes and seaplanes. Engineering 109:511 Ap 16 '20
- Longitudinal airplane—is it practical? *il* Sci Am 122:545 My 15 '20
- Methods for calculating aeronautical polar curves. Le Scur. Aerial Age 12:560 F 7 '21
- Naval architecture in aeronautics. J. C. Hunsaker. *diags* Engineering 109:857-60 Je 25 '20, *Same*. Aviation 9:10-14 Ag 1 '20
- Naval architecture in aeronautics. J. C. Hunsaker. *diags* Soc Auto Eng J 7:504-20 D '20
- New Levassieur and Gastambide variable surface airplane. H. M. Buckwald. *il* *diags* plan Aviation 9:314-16 N 22 '20
- Notes on longitudinal stability and balance. E. P. Warner. *il* *diag* J 34:98-102+ Jl '20; *Same*. Aerial Age 12:201-3 O 25 '20
- Parker variable camber wing. H. F. Parker. *il* *diags* U S Nat Advisory Com for Aeronautics 1919:729-65 '20
- Preliminary choice of a wing section. W. F. Gerhardt, B. C. Boulton and L. V. Kerber. Aerial Age 11:839-41+ Ag 30 '20
- Proposed transport airplane. *diags* Aviation 9:321 N 22 '20
- Remington-Burnell airliner. Aviation 11:15, 101 Jl 4, 25 '21
- Remington-Burnell airliner. *il* *diag* Aerial Age 13:420-1 Jl 11 '21
- Requirements of commercial airplanes; report of the Safety and economy committee of the Royal aeronautical society of Great Britain. Aviation 11:68-70 Jl 18 '21
- Requirements of the commercial airplane. W. B. Stout. Aviation 10:143-4 Ja 31 '21
- Retractable chassis as an aid to aeroplane speed and efficiency. J. V. Martin. *il* Aerial Age 12:274 N 15 '20
- Safety factors in airplane design. A. S. Niles. Eng N 87:490-1 S 22 '21

Airplanes—Design—Continued

- Some practical points in the structural design of aircraft. A. P. Thurston. *il* *diags* Engineering 111:335-7 Mr 18 '21
- Staggered spar sections. H. P. Hudson. *Aeronautical J* 25:556-8 O '21
- Structural analysis and design of the aeroplane. B. C. Boulton. *diags* Aerial Age 11:710-12, 742-4, 775-7 Ag 2-16 '20
- Technical aspects of service and civil aviation; abstracts. F. S. Barnwell. *Engineering* 110:529-30 O 22 '20; *Engineer* 130:431-2 O 29 '20; *Flying* 9:713-15+ Ja '21
- Theory and practice of aeroplane design. S. T. G. Andrews 454p Dutton '20
- Trend of airplane design *diags* Automotive Ind 42:170-3, 44 364-5+ Ja 15 '20, F 17 '21
- Use of the hollow strut on the new airplanes. E. P. Warner. *diags* Automotive Ind 42 716-20 Mr 18 '20
- Variable angle of incidence airplane. *diags* Aviation 7 641-2 Ja 15 '20
- Variable surface airplane. *il* Aviation 9 297 N 15 '20
- Variable wing area and variable camber. H. B. Irving. *Aviation* 9:19-21 Ag 1 '20
- Vibration of spars in aircraft. A. H. Stuart. *diags* Engineering 109:201 F 13 '20; Same. *Aviation* 8 201 My 1 '20
- La vie et les voyages aux très hautes altitudes; cabines closes, à pression constante, pour ballons et avions Dr Guglielminetti. *il* *diags* Génie Civil 76:288-92 Mr 20 '20, Same abr (More about high flying) *Sci Am* M 2 70-3 Jl '20, *Excerpt*. Aerial Age 12 189 Ja 17 '21
- Wisenant longitudinal aeroplane. M. A. Spicer. *il* Aerial Age 11 804-5 Ag 23 '20
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All ready for Columbus convention. *J Foundry* 48:709-16+ S 15 '20

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Special session meetings at 2d annual con-
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Iron Age 105:1311-14 My 6 '20, Mach 26:
925 Je '20

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P. M. Heldt. Automotive Ind 42:1048-50
My 6 '20

5th annual convention, Cincinnati, April 27-
30. Iron Age 107:1183-6 My 5 '21; Am Mach
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5 '21; Mach 27:950 Je '21; Mech Eng 43:
424-5 Je '21

5th annual convention, Cincinnati, April 27-
30. P. M. Heldt. Automotive Ind 44:945-9
My 5 '21

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13-15. Am Mach 55 657-8 O 20 '21; Iron Tr
R 69 1026-7 O 20 '21; Iron Age 108:1001-6
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13-15. P. M. Heldt. Automotive Ind 45:
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15. Elec Ry J 54:889-90 N 15 '19; Iron Age
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Disciplinary procedure of the American in-
stitute of architects. H. W. Sellers. Eng N
84:677-80 Ap 1 '20

53d annual convention, Washington, D.C.,
May 5-7. Am Arch 117:601-10, 613, 633-46
Mv 19-26 '20; Arch Forum 32:179-82 My '20,
Am Inst Arch J 8:220-7 Je '20

54th annual convention, Washington, D.C.,
May 11-13. Am Arch 119:573-9 My 25 '21;
Arch Forum 34:153-4, 156 My '21

Question of state societies. il charts maps Am
Inst Arch J 8:185-94 My '20

Standardization and the A.I.A. Am Arch 117:
578-80 My 12 '20

Synopsis of committee reports. Am Arch 117:
614-19 My 19 '20

Post-war committee

Architect and the Post-war committee. G.
Brown. Am Arch 117:299-302 Mr 10 '20

Architects' movement to improve relations
with the engineers and with the public.
Heat & Ven 17 37-9 F '20

Chart of the organization of the Post-war
committee on architectural practice. Am
Inst Arch J 7:529 D '19

English opinion. J. Murray. Am Inst Arch
J 7:538-9 D '19

Post-war committee—an American opinion.
H. K. Holzman. Am Inst Arch J 8:50-2 F
'20

Report on architectural practice at 53d an-
nual convention. Am Arch 117:606-10, 613
My 19 '20

What did the Post-war committee ac-
complish? Am Inst Arch J 8 263-71 J1 '20

American institute of baking

1st annual report. Sci Am M 3.86 Ja '21

American institute of banking

Institute cleaning house. R. B. Locke. Comm
& Fin Chr 113:173-4 sec 2 O 29 '21

Report of American bankers' association.
G. B. Perry. Comm & Fin Chr 111:142-3 sec
2 N 20 '20

American institute of chemical engineers

12th annual meeting, Savannah, Georgia,
Dec. 2-6. Chem & Met Eng 21:660-2 N 26
'19

12th annual meeting, Savannah, Ga., Dec. 2-6
J. C. Olsen. J Ind & Eng Chem 12 85-6 Ja
'20

12th semi-annual meeting, Montreal, June 26-
July 5. Chem & Met Eng 23 49-52 J1 14 '20

13th semi-annual meeting, Detroit, June 20-
25. Chem & Met Eng 25:6-10 J1 6 '21

13th winter meeting, New Orleans, Dec. 5-9.
Chem & Met Eng 23 1198-1202 D 22 '20; J
Ind & Eng Chem 13 89-90 Ja '21

American institute of chemistry (proposed)

American institute of chemistry. Chem Age
29:50, 95-6, 127-8 F-Ap '21

American institute of chemistry; some his-
tory of chemical organization in Great Brit-
ain and some comparisons. il Chem Age
29 301-4 Ag '21

Observations on the project and answers to
the New Jersey chemical society's question-
naire. Chem Age 29 22-4 Ja '21

Question that will not down. Chem & Met
Eng 24:193 F 2 '21; Discussion. 24:240-2 F 9
'21

American institute of electrical engineers

Annual meeting, New York, May 20. Am Inst
E E J 40:531-2 Je '21

Discussion on the super power system for
the Northeast Atlantic seaboard, sym-
posium. Am Inst E E J 39 766-77 Ag '20;
Abstract. Elec Ry J 55 435-8 F 28 '20

Electrical engineers institute elects officers.
Elec R 78 877-8 My 28 '21

Meeting, Pittsburgh, Mar. 12. Elec Ry J 55:
697-600 Mr 20 '20

Midwinter convention, New York, Feb. 18-20.
Elec W 75 186-92 F 28 '20; Elec Ry J 55:401
F 21 '20

9th midwinter convention, New York city.
Elec Ry J 57:364 F 19 '21; Am Inst E E J
40:250-1 Mr '21; Power 53 366-7 Mr 1 '21

Progress of the Institute. C. Townley. Elec R
76:60 Ja 10 '20

Technical committee reports. Elec W 76:19-
20 J1 3 '20

36th annual convention, White Sulphur
Springs, W. Va., June 29-July 2. Elec R
77 61-4 J1 10 '20; Elec W 76:57-66 J1 10
'20

37th annual convention, Salt Lake City, June
21-24. Elec W 77:1469-72; 78:7-13 Je 25-
J1 2 '21; J Elec 47:63-4 J1 15 '21

38th meeting, New York, Dec. 12. Elec R
75:1023-4 D 20 '19

American institute of laundering

American institute of laundering. L. C.
Breed. Ind Management 60:217 S '20

American institute of mining and metallurgical engineers

A.I.M.E. meeting will include three tours. Eng
& Min J 112:423-4 S 10 '21

American institute of mining and metallurgical engineers—Continued

- Annual banquet, Feb. 17. Eng & Min J 109:496-503 F 21 '20
- Annual fall meeting of Metals division, Columbus, Oct. 4-8. Iron Tr R 67:911-14 S 30 '20
- Directory. Min & Met 161:(sec 2) 1-277 My '20
- Early days of the institute. pors Min & Met 177:4-19 S '21
- Engineering lifted from back room of blue-prints to first order of national importance. H. Hoover. Min & Met 171:17-19 Mr '21
- Engineers from country over visit anthracite region. R. D. Hall. Il Coal Age 20:463-5, 503-4 S 22-29 '21
- Engineers visit copper and iron ranges. R. D. Hall. Il Coal Age 18:527-32, 575-81 S 9-16 '20
- 5th annual meeting of the Woman's auxiliary. Min & Met 171:23-7 Mr '21
- Industrial organization session. T. T. Read. Eng & Min J 109:505 F 21 '20
- Institute membership and professional status. Min & Sci P 122:248-9 F 19 '21
- Institute of metals division meeting, New York, Feb. 15. Metal Ind 19:105-7 Mr '21
- Institute publications. P. E. Barbour. Min & Met 177:23-4 S '21
- Institute's part in the improvement of industrial relations. Min & Met 164:8-11 Ag '20
- Lake Superior milling and smelting practice. Chem & Met Eng 23:365-7 S 1 '20
- National meeting of institute of metals division, New York, Feb. 17. Metal Ind 18:68-72 F '20, Eng & Min J 109:506-7 F 21 '20
- Official institute reports for the year 1919. Min & Met 158 (sec 2) 1-16 F '20
- 121st meeting, New York city, Feb. 16-19. Min & Met 159 (sec 1) 9-31 Mr '20; Chem & Met Eng 22:343-8, 341-7 F 25-Mr 3 '20, Iron Age 105:609-11 F 26 '20, Iron Tr R 66:623-6 F 26 '20
- 122d meeting, Lake Superior region, Aug. 20-Sept. 3. Min & Met 166:6-11 O '20; Eng & Min J 110:446-56 S 4 '20, Mech Eng 42:600 O '20
- 123d meeting, New York, Feb. 14-17. Chem & Met Eng 24:329-32 F 23 '21; Coal Age 19:406-7, 457-8 Mr 3-10 '21; Iron Age 107:503-5 F 24 '21, Iron Tr R 68:544-6 F 24 '21; Min & Met 171:5-16 Mr '21, Eng & Min J 111:340-51 F 19 '21
- 124th meeting, Wilkes-Barre, Pa., Sept. 12-15. Eng & Min J 112:485-91 S 24 '21
- Semi-centennial meeting, Wilkes-Barre, Pa., Sept. 12-15. H. A. Megraw. Il Min & Met 178:15-23 O '21
- Sessions on oil and gas. New York, Feb. 16. Eng & Min J 109:521-3 F 21 '20
- Petroleum section**
- 1st independent meeting, St Louis, Sept. 21-22. Eng & Min J 110:686-6 O 2 '20
- American institute of textile chemists and colorists**
- Organization. Chem Age 29:434 O '21
- American international corporation**
- Report of the president to the stockholders at the annual meeting, April 7, 1920. Comm & Fin Chr 110:1319-21 Mr 27 '20
- Report of the president to the stockholders at the annual meeting, April 6, 1921. Comm & Fin Chr 112:1159-61 Mr 19 '21
- American iron and steel institute**
- Address of head of great Creusot works. E. Schneider. Iron Age 104:1064 N 27 '19
- 16th general meeting, New York, Oct. 24. Chem & Met Eng 21:545-7 O 29 '19; Iron Age 104:1132-4 D 4 '19
- 17th general meeting, New York, May 23. Iron Age 105:1579-98 Je 3 '20; Iron Tr R 66:1598-1616 Je 3 '20
- 18th general meeting, New York, Iron Age 106:1103-24 O 28 '20; Iron Tr R 67:1190-1 O 28 '20; Chem & Met Eng 23:823-4 O 27 '20; Blast F & Steel Pl 8:587 N '20; Mech Eng 42:724-5 D '20
- 19th general meeting, New York, May 27. Iron Age 107:1455-60 Je 2 '21; Iron Tr R 68:1510-11, 1514-15 Je 2 '21; Blast F & Steel Pl 9:843-4 Je '21
- American iron, steel and heavy hardware association**
- 12th annual convention, Montreal, June 7-9. Iron Age 107:1619-20+ Je 16 '21; Iron Tr R 68:1669 Je 16 '21
- American leather chemists association**
- 18th annual meeting, Atlantic City, June 9-11. Chem & Met Eng 24:1094-6 Je 22 '21
- American locomotive company**
- American locomotive in 1921-22. S. Patterson. Annalist 18:345 O 10 '21
- Annual report, 1920. Ry Age 70:573 Mr 11 '21
- American manufacturers' export association**
- Annual meeting, New York city, Oct. 14. Am Mach 53:788h-1 O 21 '20
- American medical association**
- Record of engineers suggested by doctors' system; Association's method of keeping in touch with history and practice of 160,000 physicians. E. Judson. Eng N 84:875-6 Ap 29 '20
- American meteorological society**
- New society of interest to engineers. R. E. Horton. Eng N 84:927 My 6 '20
- American mining congress**
- Mining men discuss standardization plans. R. D. Hall. Coal Age 18:1109, 1143-6 N 25-D 2 '20
- 22d annual convention, St Louis, Mo., Nov. 17-21. Eng & Min J 108:814-22 N 22 '19
- 22d annual convention, St Louis, Nov. 17. R. D. Hall. Coal Age 16:797-802 N 13 '19
- 23d annual convention at Denver, with text of resolutions. Eng & Min J 110:1028-43 N 27 '20
- 24th annual meeting, Chicago. Eng & Min J 112:703-6 O 29 '21
- 24th annual session, Chicago, Oct. 17-22. C. E. Lesher. Coal Age 20:687-91 O 27 '21
- American newspaper publishers association**
- Newsprint and labor two most important topics at A.N.P.A. 34th annual convention, New York, April 21-23. Ptr Ink 111:17-20 Ap 29 '20
- 35th annual meeting, New York, April 27-29. Ptr Ink 115:33-6+ My 5 '21
- Bureau of advertising**
- Bureau of advertising's most useful year. Ptr Ink 115:73-4 Ap 28 '21
- Newspapers develop new business through Bureau of advertising. Ptr Ink 111:35-6 Ap 22 '20
- American oil chemists' society**
- 12th annual meeting, Chicago, May 16-17. Chem & Met Eng 24:957-9 Je 1 '21
- American order of steam engineers**
- 35th annual convention in conjunction with the American supplymen's association, Allentown, Pa., June 6. Power 53:1030 Je 21 '21
- American paper and pulp association**
- 43d annual convention, New York, April 12-15. Paper 26:254+ Ap 21 '20
- 44th annual convention, New York. Paper 28:34-48 Ap 20 '21
- Developments in the A.P.P.A. in 1920. H. P. Baker. Paper 28:42-5+ Ap 20 '21
- American petroleum institute**
- Annual meeting, Washington, D.C., Nov. 17-19. Eng & Min J 110:1051 N 27 '20
- Annual meeting, Washington, D.C., Nov. 17-19. C. F. Clarkson. Soc Auto Eng J 7:500-8 D '20
- Cheerful view of gasoline situation at Petroleum institute. J. C. Dalton. Automotive Ind 43:1073-6 N 25 '20
- Faith oil problems will be conquered, features Institute meeting. Nat Pet N 12:25-6 N 24 '20
- Help the small man in the oil business. J. F. Lucey. Nat Pet N 12:33+ D 29 '20

American petroleum institute—Continued

Plan for financing work of American petroleum institute. Nat Pet N 12 36+ N 10 '20
Relation of institute to the industry. Nat Pet N 12:29 O 20; 29 O 27; 31 N 3 '20

American photoengravers' association

24th annual convention. Cleveland, June 17-19. Inland Ptr 65 473-4 J1 '20

American public health association

47th annual meeting. New Orleans, Oct. 27-30. Eng N 83:882-3 N 13 '19

American pulp and paper mill superintendent's association

Increased production urged at Superintendents' convention. Buffalo, June 4-5. Paper 26 11-12+ Je 9 '20

Meeting. Glens Falls, Sept. 15. Paper 27:9-10 S 22 '20

3d annual convention. New York, June 3-5. Paper 28:9-11 Je 8 '21

American railroad association

A.R.A. organizes joint committee on automatic train control. Ry Age 69 738 O 29 '20

Annual meeting. Chicago, Nov 17. Ry Age 69:893, 923-7 N 19-26 '20; Ry R 67:767-9 N 20 '20

Commission on car service and troop movement bureau. Ry R 66:424-5 Mr 13 '20

Committees present progress reports at meeting in Chicago. Nov 18-19. Ry Age 67:822-4 O 24 '19

R. H. Ashton remains president of the A. R. A. Ry Age 68 705-11 Mr 5 '20

See also Freight claim prevention congress

Car service division

Reorganization of car service division. A.R.A. Ry Age 71:253-4 Ag 6 '21

Equipment painting section

1st convention. Boston, Sept. 14. Ry Age 69:529-30 S 24 '20; Ry Mech Eng 94:641-52 O '20

Freight claim agents' section

Convention Atlantic City, June 17-18. Ry R 66:1108 Je 26 '20

30th annual convention. Chicago, May 17-19. Ry Age 70:1231-2 My 27 '21

Freight station section

1st meeting. Chicago, June 21-23. Ry Age 71:27-8 J1 2 '21

Mechanical division

2d annual convention. Atlantic City, N.J., June 9-16. Ry R 66 965-8, 1027-49 Je 12-19 '20. Ry Age 68 1629-44, 1737-54, 1793-1810, 1841-57, 1881-1910 Je 10, 12, 15-17 '20

Medical and surgical section

1st annual meeting. Boston, June 3-4. Ry Age 70:1341 Je 10 '21

Perishable freight division

Organization. Ry R 67 103 J1 17 '20

Purchases and stores division

1st annual meeting. Atlantic City, N.J., June 14-16. Ry R 66 1033-93 Je 26 '20. Ry Age 68:1813-22, 1859-74, 1911-12 Je 15-17 '20

Annual meeting. Chicago, June 9-11. Ry R 68:937-42 Je 18 '21; Ry Age 70:1355-62, 1397-8 Je 10-17 '21; Am Mach 54:1104e Je 23 '21

Safety section

Safety section of A.R.A. holds first meeting. W: S. Wollner. Ry Age 71:629 O 1 '21

Signal section

Annual meeting. Chicago, June 6-8. Ry Age 70:1329-32 Je 10 '21; Ry R 68:906-9 Je 11 '21

4th meeting. New York, Dec. 2-3. Ry Age 67:1057-8 N 28 '19

Meeting. Chicago, March 15-16. Ry R 66:485-7 Mr 20 '20

Meeting. New York city, Dec. 2-3. Ry Age 69:1015-16 D 10 '20

Signal engineers' 25th annual convention, Alexandria Bay, N.Y., July 14-16. Ry Age 69:147-8 J1 23 '20

Telegraph and telephone section

2d meeting. Chicago, Dec. 3-5. Ry Age 67:121-2 D 26 '19

Meeting. Winnipeg, Manitoba, Sept. 22-24. Ry Age 69:571-2 O 1 '20

Annual meeting. Cleveland, Ohio, Sept. 21-23. Ry Age 71:585-7 S 24 '21

American railway bridge and building association

29th annual convention. Cleveland, Oct. 21-23. Ry Age 67:977-82 N 14 '19

30th annual convention. Atlanta, Ga., Oct. 26-28. Ry Age 69 759-64, 803-4 O 29-N 5 '20; Ry R 67:702-3 N 6 '20

31st annual convention. New York, Oct. 18-20. Ry R 69 525-32 O 22 '21; Eng N 87:706 O 27 '21; Ry Age 71 781-8 O 22 '21

American railway development association

Annual meeting. New York city, May 11-13. Ry Age 70 1129-30, 1171-3 My 13-20 '21

American railway engineering association

21st annual convention. Chicago, Mar 16-18. Elec Ry J 55 652-3, 689, 695-8 Mr 27-Apr 3 '20. Eng N 84 613-16, 643-4 O 29-N 5 '20; Ry R 66 475-7, 497-9 Mr 20 '20

22d annual convention. Chicago, March 15-17. Ry R 68:435-49 Mr 13-15 Mr N 86:515-18 Mr 24 '21; Elec Ry J 67:711-2 Apr 2 '21

American railway express company

Express company consolidation. Ry Age 69: 110 J1 16 '20

Express consolidation approved by commission, combination of companies into American railway express. Ry Age 69 1119-20 D 24 '20

Express contract approved. Ry Age 69 1154-5 D 31 '20

Express situation; abstracts. G. C. Taylor. Ry R 66:740-1 My 1 '20; Ry Age 68:1288-9 Ap 30 '20

How the American railway express co. secures greater service from its motor trucks. B. K. Rhoads. Eng & Contr 52:310-1 S 17 '19

Keving up the inside staff to its sales responsibility. E. T. Tandy. Ptr Ink 114:3-4+ Mr 10 '21

Labor board raises wages of railway expressmen. Ry R 67:236-8 Ag 14 '20; Same. Ry Age 69:271-2 Ag 13 '20

Railroads and the express service. S. W. Todd. Ry R 66:548-9 Ap 3 '20

Report for fiscal year ending Dec 31 1920. Comm & Fin Chr 113 1979-80 N 5 '21

American railway tool foremen's association

10th annual convention. Chicago, Sept 1-3. Ry Age 69:442 S 10 '20; Ry R 68:515-18 S 11 '20; Ry Mech Eng 94:653-9 O '20

American relief administration

American relief administration's food drafts for engineers. H. Hoover. map Min & Met 167:9-11 N '20

Food-draft system of the American relief administration. E. Rickard. Min & Sci P 121: 739-40 N 20 '20

American road builders' association

Annual meeting. New York, Nov. 7. Good Roads n s 18:217-18 N 12 '19

17th annual convention. Louisville, Ky., Feb. 9-13. Good Roads n s 19 87-90+ F 18 '20

18th annual convention. Chicago, Feb. 9-12. Good Roads n s 21:93-6+ F 16 '21; Eng N 86:315-16 F 17 '21

History of association, executive officers and program for 17th annual convention. Good Roads n s 19:63-7 F 4 '20

Organization and history. pors Good Roads n s 21:65-70 F 2 '21

Presidential address at annual meeting. Nov. 7. G. P. Coleman. Good Roads n s 18:213-14 N 12 '19

American-Scandinavian foundation fellowships

Twenty fellowships will be awarded to American students. Chem & Met Eng 72:485 Mr 17 '20

- American society of heating and ventilating engineers**—Research bureau—*Continued*
Work of the Research bureau. J: R. Allen. Am Soc Heat & V E J 26:759-65; Discussion. 766-9 N '20
- American society of lubricating engineers**
1st convention, Chicago, Oct. 12-13. Power 54:700 N 1 '21
- American society of mechanical engineers**
A.S.M.E. affairs. Mech Eng 42:133-48 sec 2 O '20
40th anniversary meeting, Nov. 5. Am Mach 53 1177-9 N 18 '20; Iron Age 106 1252-5 N 11 '20; Power 52:798-9 N 16 '20; Mech Eng 42: 712-15 D '20
40th annual meeting, New York, Dec. 2-5. Elec R 75:1024-6 D 20 '19; Iron Age 104: 1175-7 D 11 '19; Iron Tr R 65:1589-92 D 11 '19; Power 50:725-8 N 11 '19; Mach 26 407-8 Ja '20; Mech Eng 42 32-42 Ja '20
41st annual meeting, New York, Dec. 7-10. Am Mach 53 1156-7 D 16 '20; Elec Ry J 56: 1247-50 D 18 '20; Iron Age 106 1616-18 D 16 '20; Iron Tr R 67:1666-8 D 16 '20; Power 52: 996-1000 D 21 '20; Ry Age 69:1009-14 D 10 '20; Mach 27:429-30 Ja '21; Mech Eng 43: 37-8 Ja '21
- Mechanical engineers discuss automotive trend.** G. Wiedeman. Automotive Ind 41: 1161+ D 11 '19
- Mechanical engineers view labor situation.** Iron Age 104:1177-9 D 11 '19
- New officers.** Am Mach 51:965-6 N 27 '19
- President Cooley's address, annual meeting, 1919.** Mech Eng 42:43-7 Ja '20
- Recommend new by-laws for student branches.** Eng N 83:991 D 11 '19
- Spring convention, St. Louis, May 24-27.** Mech Eng 42 386-98 Jl '20; Am Mach 52:1327-30 Je 17 '20; Mach 26 1081-2 Jl '20
- Spring meeting, Chicago, May 23-26.** Iron Age 107:1402+, 1483-4 My 26-Je 2 '21; Power 53:946-8 Je 7 '21; Mech Eng 43:461-4 Jl '21; Am Mach 54 975 Je 2 '21
- Spring meeting of the Textile division, Providence, R.I.** Textile World 59:2543+ Ap 16 '21
- Spring meeting, St. Louis, May 24-27.** Elec Ry J 55 1107 My 29 '20; Iron Age 105:1602-4 Je 3 '20; Iron Tr R 66:1617-23, 1626-8 Je 3 '20; Power 51:941-2 Je 8 '20
- Work of the Boiler code committee.** Mech Eng 42:47-9, 126-7 Ja-F '20
- American society of mechanical inspectors**
1st annual convention and exhibit, New York city, Feb. 2-6. Mach 26 614-15 Mr '20
- American society of refrigerating engineers**
Alphabetical and geographical lists of members. A S R E J 7:86-111 Jl '20
Alphabetical list of members. A S R E J 8: 71-84 Jl '21
8th western meeting, Chicago, May 25-27. Chem & Met Eng 24:1074-5 Je 15 '21; Power 53:948-9 Je 7 '21
- 15th annual meeting, New York, Dec. 1-3.** Power 50:730 N 11 '19
- 16th annual meeting, New York, Dec. 6-8.** Power 51 1067 N 11 '20
- Spring meeting, St. Louis, May 26-28.** Power 51:943-4 Je 8 '20
- American society of safety engineers**
Safety engineering. Am Arch 117:777 Je 16 '20
- American society of sanitary engineering**
15th annual convention, St. Louis, Mo., Sept. 7-9. Dom Eng 92:596-8+ S 18 '20; Metal Work 94:373-7 S 17 '20
16th annual convention, Cincinnati, Sept. 6-8. Dom Eng 96:526-30 S 17 '21; Sanitary & Heat Eng 96:206-11 S 23 '21
- Sanitary inspection and test bureau**
Bureau of tests and inspections organized. Sanitary & Heat Eng 96:196+ S 23 '21
- American specification institute**
American specification institute. Am Arch 120:174-5 Ag 31 '21
Movement to organize the American specification institute. Am Arch 118:643-4, 792-4, 825-6; 119:119, 173-3 N 17, D 15-22 '20, F 2, 16 '21
Plan and scope of the American specification institute. Am Arch 119:671-3 Je 22 '21
- American steamship owners' association**
Shipowners form strong society. Il ports Marine R 50:371-5 Jl '20
Team work for the merchant marine. Il ports Int Marine Eng 25:562-6 Jl '20
- American steamship owners mutual protection and indemnity association, Inc.**
How claim problems are solved. Marine R 51:318-19 Jl '21
- American steel treaters' society.** See American society for steel treating
- American supply and machinery manufacturers association**
Annual meeting, Atlantic City, May 16-18. Am Mach 54:928c My 26 '21; Iron Age 107:1382-3, 1429-32 My 26 '21; Iron Tr R 68:1466-7 My 26 '21
Combined meeting of machinery dealers and manufacturers at Atlantic City. Am Mach 52 1156-A My 27 '20
1921-1922 officers. Am Mach 54:1064d Je 16 '21
- American supplymen's association**
Annual convention in conjunction with the American order of steam engineers, Allentown, Pa., June 6. Power 53:1030 Je 21 '21
- American telephone and telegraph company**
Annual report of the directors to the stockholders for the year ending December 31, 1919. Comm & Fin Chr 110 978-83 Mr 6 '20
Annual report of the directors to the stockholders for the year ending Dec 31, 1920. Comm & Fin Chr 112:1033-8 Mr 12 '21
Bell telephone service in 1921 to be best yet, president Thayer says. Elec W 77 616-17 Mr 12 '21
Developments and research in telephony shown in annual report of president for 1920. Elec R 78 630-2 Ap 16 '21
- American tobacco company**
American tobacco company ties up sales talk with advertising copy. R. Bostick. Ptr Ink 116:3-4+ Ag 25 '21
- American tool works company, Cincinnati**
Worth-while training department. L. C. Morrow. Il Am Mach 53 893-6 N 11 '20
- American trona corporation**
American operations of the Consolidated gold fields of South Africa. Min & Sci P 121: 881-2 D 18 '20
American trona corporation. C. G. Fowler. Min & Sci P 122 743-4 My 28 '21
- American water works and electric company (Incorporated)**
7th annual report—year ending June 30 1921. Comm & Fin Chr 113:1466-7 O 1 '21
- American water works association**
Address of retiring president C. E. Davis. Can Eng 38 587-8 Je 24 '20, Same. Eng & Contr 54 35 Jl 14 '20
Constitution, list of past presidents, list of officers 1920-1921, list of sections, list of committees 1920-1921, roll of honor and list of members. Am Water Works Assn J 7: sup1-134 S '20
Constitution, list of past presidents, list of officers 1921-1922, list of sections, list of committees 1921-1922, list of members. Am Water Works Assn J 8:sup1-85 S '21
1st general meeting of Canadian section, Toronto. Can Eng 40:211-16 F 10 '21
40th annual convention, Montreal, June 21-24. Can Eng 39 101-5+ Jl 1 '20, Eng N 85: 6-8 Jl 1 '20, Pub Works 49:5-8, 32-3 Jl 3-10 '20
41st annual meeting, Cleveland, Ohio, June 6-10. Pub Works 50:527-9, 546-8; 51:6-8 Je 18-Jl 2 '21; Munic Eng 60:247-9 Je '21; Eng N 86:1049+ Je 16 '21
Presidential address. C. E. Davis. Am Water Works Assn J 7:852-6 S '20
- American welding society**
1st annual convention, New York, April 22. Ry Age 68:1290 Ap 30 '20; Ry Mech Eng 94:380 Je '20
1st regular meeting, New York city, Oct. 24. Elec W 74:909 O 25 '19
2d annual convention, New York, April 27-30. Elec W 77:1068-9 My 7 '21

American welding society—Continued

Year of preparation in welding. C. A. Adams.
Elec W 75:321-2 F 7 '20

American wholesale coal association

Annual convention, Pittsburgh, June 1-3.
Coal Age 17:1226-7 Je 10 '20

Annual convention, Washington, June 7-8.
Coal Age 19:1091-2 Je 16 '21

American wholesale lumber association

American wholeners' code of ethics. Am
Lumberman 2351 06 Je 5 '20

Organization Am Lumberman 2349:47-51+
My 22 '20

American wood preservers' association

16th annual meeting, Chicago, Feb. 10-12, Ry
Age 68 491-5 F 13 '20, Ry R 66 252-4 F 14

'20

17th annual convention, San Francisco, Jan.
25-27, Ry Age 70:321-2 F 4 '21

American woolen company

American woolen co. relieves house shortage.
S: Sayward II plans Textile World 57:1221-4

F 7 '20

21st annual report for the year ending Decem-
ber 31, 1919. Comm & Fin Chr 110:1886-7

My 1 '20

22d annual report covering the year 1920.
Textile World 59:1696 Mr 5 '21; Same. Comm

& Fin Chr 112:946-7 Mr 5 '21

American writing paper company

Builders of business, George A. Galliver. P:
F O'Shea. System 40 555-6+ N '21

American zinc institute

2d annual meeting, Chicago, May 10-11. P.
R Coldren Eng & Min J 109 1133 My 15

'20

3d annual meeting, St Louis, May 9-10. Sheet
Metal Worker 12 294-5 My 27 '21

Zinc as applied to building construction. E:
S. Gellatly Sheet Metal Worker 12 74-6 Mr

4 '21

Americanization

Americanism fostered by industry. F. A. Kel-
ler. Textile World 57 935+ F 7 '20

Americanism in Americanization. B. K.
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- House of Fred B. Smith, Baldwin, Long Island, N.Y. Arch Forum 34:pl 60-1 Ap '21

Architecture, Domestic—Designs and plans

—Continued

- House of Fred J. Carver, Seattle, Wash.; views and plans. Bldg Age 43 43-6 F '21
- House of George Crompton, Pocasset, Mass.; views and plans. Am Arch 117:pl 612h-J My 19 '20
- House of George E. Cranmer, Denver, Colorado. Am Arch 118:674a-h N 24 '20
- House of George L. Osborn, Brookline, Mass.; views and plans. Am Arch 117:310a-c Mr 10 '20
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- House of Guido Doering, St Louis, Mo. Am Arch 128:706f-i D 1 '20
- House of Guy C. Foster, Tenafly, N.J. Bldg Age 43 43-4 Ap '21
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- House of Mrs. C. P. Adams, Dallas, Texas; views and plans. Am Arch 118 862a-d D 29 '20
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- House of R. E. Lewis, Hartsdale, N.Y. Il Am Arch 119:556a-e, 557-8 My 11 '21
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- House of Rev. William M. Crane, Richmond, Mass. Arch Forum 34 75, pl 25-6 F '21
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- House plans and views. Bldg Age 43:35-41 Ap; 51-8 My '21
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- Residence at Allendale, N.J.; Zanesville, Ohio. Arch & Bldg 52: Dwelling house ser 7-8 O '20
- Residence of C. E. Carter, Tenafly, N.J.; House of R. N. Thatcher, Montclair, N.J. Arch & Bldg 53: Dwelling house series 5-6 Mr '21
- Residence of Herbert S. Drew, Belmont, Mass.; Residence of John R. Hoyt, Great Neck, L.I.; Residence of Mrs. C. O. Baring, Hartsdale, N.Y.; views and plans. Arch Rec 49:79-90 Ja '21

Architecture, Domestic—Designs and plans*—Continued*

- Residence of J. Harleston Parker, esq., Boston, Mass. F. C. Brown. 11 plans Arch Rec 46:498-517 D '19
- Residence of Julian Eltinge, esq., Los Angeles, California E. Grey. 11 plan Arch Rec 49:99-113 F '21
- Residence of Miss E. S. Cushing, Waban, Mass.; views and plans Arch Rec 50 70-4 JI '21
- Residence of Mrs Alexis L. Ehrman, Ather-ton, Cal.; view and plans. Arch Rec 48: 459-60 N '20
- Residence of the late F. W. Woolworth, esq., Glen Cove, L.I. H. Croly. 11 plans Arch Rec 47:195-213 Mr '20
- Residence of William R. Coe, Oyster Bay, L.I. J. T. Boyd, jr. 11 plan Arch Rec 49: 194-224 Mr '21
- Robert L. Bacon, Jr., house. 11 plan Am Arch 117:397-9, pl 408a-g Mr 31 '20
- Saving of work is motive of unusual house. P. H. Woodruff. 11 plans Pop Mech 35.65-8 Ja '21
- Semi-detached four family house. G. A. Luckey. 11 diags plans Bldg Age 42 54-7 JI '20
- Servantless house on one floor. 11 plan Con-crete 18.121 Mr '21
- Seven-room house at Lansdowne, Pa.; views and plans. Bldg Age 42 46 F '20
- Seven-room stucco house and five room frame house; with quantity surveys Bldg Age 43 21-8 O '21
- Simple dignified hollow tile house 11 plans Bldg Age 43 50-1 N '21
- Six-room house for small corner lot. 11 plan Bldg Age 43 19-20 O '21
- Six room house that can be built on small lot 11 diags plans Bldg Age 43 35-7 Ag '21
- Small concrete houses—attractive, quickly built and low in cost 11 diags plans Bldg Age 43 24-6 Ag '21
- Small country house at Belmont, Mass., views and plans Arch Forum 31 217 D '19
- Small country house in Belmont, Mass., view and plans Arch Forum 33 153 O '20
- Small English country house at Hartsdale, N.Y., view and plans Arch Forum 33 231 D '20
- Small house at Yonkers, N.Y. 11 plans Arch Forum 31 151 Ap '21
- Small house plan idea Concrete 19 167 O '21
- Small houses at moderate cost; prize-winning designs in the recent small house com-petition 11 plans Bldg Age 43 20, 22-4, 28, 30 Ap '21. Excerpt (plans) Am Arch 119 305, 307, 309-12 Mr 16 '21
- Solving the concrete house design problem R. B. Williamson Arch & Bldg 53 56-7.
- Dwelling house series 11-12 JI '21
- Some houses of Paterson, N.J.; views and plans. Am Arch 118 578a-h N 3 '20
- Some post-war housing developments in New England T. S. Rogers 11 plans Arch Forum 34 213-18, pl 99-90 Je '21
- Some work of George Washington Smith W. W. Kent 11 plans Arch Forum 35 45-50 Ag '21
- Standardized small houses. M. D. Morrill. 11 diags plans Arch Rec 42 19-25, 41-3 Je '20
- Stone used effectively in a small house. 11 plans Bldg Age 42 53-4 S '20
- Stucco and clapboards form interesting com-bination. 11 diags plans Bldg Age 41:400-4 D '19
- Stucco and half timbered house at Lawrence Park, N.Y.; view and plans. Bldg Age 42:43 F '20
- Stucco house 95p Atlas Portland cement co., New York, Chicago '21
- Study in brick. 11 plans Bldg Age 43:37 O '21
- Successful house and garage unit. Arch & Bldg 53 50 h pl 92a Je '21
- Texas residential development. 11 plans Arch Forum 35:73-5 Ag '21
- Thousand-dollar house and its near relatives. J. R. Richardson. 11 plan Sci Am 124:127 F 13 '21
- Two-family house at Mount Vernon, N.Y.; view and plans. Bldg Age 42:45 F '20
- Two-family houses are popular; with cost data. 11 plans Bldg Age 43:41-2 Je '21
- Two homes that reflect the spirit of country life. 11 plans Bldg Age 43:19-20 JI '21
- Two popular small house designs. 11 plans Bldg Age 43:23 N '21
- Type of patio dwelling possessing many de-sirable features. 11 plans Bldg Age 42:37-9 N '20
- United States housing corporation plans. Concrete 16:270-1 Je '20
- United States housing corporation proposed development at Ilion, N.Y., and Charleston, W. Va. diags plans Concrete 16:228-9 My '20
- Unusual bungalow of colonial design; resi-dence of John R. Pushee, Southern Pines, N.C. 11 plans Bldg Age 43:19-21 N '21
- Unusual side hill residence. 11 diags plans Bldg Age 43 36-7 N '21
- Well-designed and planned six-room house at Maplewood, N.J. 11 diags plans Bldg Age 42 19-21 Ja '20
- Well-planned two-family house C: A. Byers. 11 plan Bldg Age 42 25-7 Ap '20
- Workman's home. L. H. Allen. 11 plans Sci Am S 88:358-9 D 13 '19
- See also* Bungalows; Cottages, Miners' houses

Remodeling*See* Houses, Remodeled**Balkan states***See* Housing problem—Balkan states**England**

Building a nation, social aspects of Eng-land's housing program L. Veiller 11 Arch Rec 48 407-16 N '20

Crisis in architecture. A J Pentv diags plans Am Inst Arch J 8 316-22 S '20

English homes of the Norman and Plantag-et periods 11 Am Arch 120 76-9 Ag 3 '21

Lugger's Hill, Broadway in Worcestershire. H D Eberlein. 11 plans Arch Forum 33:45-50 Ag '20

Notes from England with special references to the work of Richardson & Gill. archi-tects H. J. Rinstling. 11 diags plans Arch Forum 32 61-4 F '20

See also Housing problem—Great Britain**France**

How France is building new and better low-cost houses M D Morrill 11 diags plans Bldg Age 43 36-8 S '21

See also Housing problem—France, Hous-ing problem—Paris**Italy**

Cigliano, San Casciano, Val Di Pesa H D Eberlein 11 plan Arch Rec 50 133-45 Ag '21

Coitile of the Palazzo Peretti in Rome. H. D Eberlein 11 diag plan Arch Rec 48:107-20 Ag '20

L'Ombrellino, at Pian de'Giullari near Flor-ence, Italy H D Eberlein 11 plan Arch Rec 48 441-51 N '20

Villa Cipponi at Arcetri, near Florence, Italy H D Eberlein 11 Arch Rec 49:114-33 F '21

Villa Frullino near Florence. H D Eberlein. 11 plans Arch Rec 49:18-29 Ja '21

Villa Galileo (Il Gioiello), at Pian de' Giul-lari, near Florence, Italy. H. D. Eberlein. 11 plan Arch Rec 48:13-13 JI '20

Villa Madama Rome. H. D. Eberlein. 11 plans Arch Rec 49:253-66, 346-57 Mr-Ap '21

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Villas of the Veneto; the Villa Berchet, on the Terraglio, near Mestre H. D Eberlein and R B C M. Carrère. 11 plan Arch Forum 34 157-64 My '21

Villas of the Veneto; the Villa Cerato at Montecchio Precalcino H D Eberlein and R B C M. Carrère. 11 diags plan Arch Forum 34 77-84 Mr '21

Villas of the Veneto; the Villa Emo at Fan-zolo, H D Eberlein and R. B. C. M. Car-rère 11 diags plan Arch Forum 34:1-3 Ja '21

Mexico

Passing of the House of the tiles. S. Baxter. 11 Arch Rec 46:493-6 N '19

Architecture, Domestic—Continued

Russia

Russian working-class dwellings. T. W. Clark. II Am Inst Arch J 8:260 JI '20

United States

- Ante-bellum houses of central Alabama. N. C. Curtis. II Am Inst Arch J 8:388-98 N '20
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- Early American domestic architecture. II diags plans Arch Forum 32 53-60; 33:101-8, 175-82, 219-26; 34:47-54 F, S, N-D '20, F '21
- Early brick houses of Salem county, New Jersey. H. D. Eberlein. II diags Am Arch 120:139-48 Ag 31 '21
- Hillside house, the property of George Howe, esq., Chestnut Hill, Philadelphia. P. P. Cret. II plan Arch Rec 48 82-106 Ag '20
- House at Elizabeth, N.J., designed and owned by H. G. Morse, architect; views. Am Arch 120:118k-m Ag 17 '21
- House at Greenwich, Conn. R. F. Whitehead. II plan Arch Rec 49:287-99 Ap '21
- House at Oceanic, New Jersey; views. Am Arch 117:188a-d F 11 '20
- House at Oyster Bay, L.I., N.Y.; views and plan. Am Arch 117:436d-i Ap 7 '20
- House in Washington, D.C., of George Oakley Totten, architect. II plan Am Arch 120:1-7 JI 6 '21
- House of A. W. Bliss, Marion, Mass.; views. Am Arch 116:pl 153-4 O 29 '19
- House of Edward A. Clark, Marion, Mass.; views. Am Arch 116:pl 146-8 O 22 '19
- House of F. H. Kennard, Newton Centre, Mass.; views. Am Arch 116:pl 155 O 29 '19
- House of G. S. Gaylord, Neenah, Wis.; views. Am Arch 120:118n-p Ag 17 '21
- House of George W. Olmstead, Ludlow, Pa.; views. Am Arch 117:468a-f Ap 14 '20
- House of H. H. Rea, Sevier, Pa.; views. Am Arch 117:pl 612a-e My 19 '20
- House of James J. Hill, Old Westbury, L.I., N.Y.; views. Am Arch 119 16a-h Ja 5 '21
- House of L. H. Shearman, Lakeville, L.I., N.Y.; views and plans. Am Arch 120:152b-o, 153 Ag 31 '21
- House of Ralph Isham, Santa Barbara, Cal.; views. Am Arch 119 44a-d Ja 12 '21
- House of Robert J. Thorne, Lake Forest, Ill.; views. Am Arch 119 265-7+ Mr 9 '21
- House of S. H. P. Pell, Fort Ticonderoga, N.Y.; views. Am Arch 120:pl 14a-h JI 6 '21
- Houses at Chestnut Hill, Pa.; views. Am Arch 119 pl 616a-h Je 8 '21
- Old houses, Connecticut; views. Am Inst Arch J 8:113-15 Mr '20
- Old Salem houses. W. H. Hunt. II Am Arch 119:507-13, 522a-f Ap 27 '21
- Post-war housing. II plans Am Arch 118: 809-17 D 22 '20
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- Residence of Healy C. Dulles, esq., Villa Nova, Pa. E. B. Gilchrist. II plan Arch Rec 49:2-17 Ja '21
- Residence of Julian Eltinge, Los Angeles, California. F. Grey. II plan Arch Rec 49:99-113 F '21
- Residence of Mr Joseph E. Tilt, Chicago; views. Am Arch 119:pl 428h-k Ap 6 '21
- Residence of Mrs B. F. Pepper, Chestnut Hill, Philadelphia. W. L. Bottomley. II Arch Rec 48:370-83 N '20
- Residence of the late F. W. Woolworth, esq., Glen Cove, L.I. H. Croly. II plans Arch Rec 47:195-213 Mr '20
- Samuel McIntire, housewright-architecture, Salem, Mass. W. H. Hunt. II Am Arch 119: 415-22, pl 428a-e Ap 6 '21
- Six and seven-room duplex houses that are being built in New York. II Bldg Age 43: 46 JI '21
- Southern California home of H. L. Hitchcock, built of double wall concrete. C. M. Winslow. II plan Concrete 19:54-7 Ag '21
- Survey of existing colonial architecture in Maine. F. H. Porter. II Am Arch 120:149-51 Ag 31 '21
- Turtle Bay gardens, New York city. A. W. Colton. II plan Arch Rec 48:467-93 D '20
- Villa Carola, the residence of Mr and Mrs Isaac Guggenheim, Port Washington, L.I. II plans Arch Forum 32:145-50, pl 49-58 Ap '20
- See also Architecture, Colonial
- Architecture, Dutch**
Old stone houses of Esopus. H. M. Hastings. II Arch Rec 49:91-5 Ja '21
- Architecture, Greek**
Greek design, with discussion. J. Hambidge. diags Am Inst Arch J 8:288-95 Ag '20
- Hambidge theory of symmetry and proportion in Greek architecture as relating to architectural design. J. A. Kane. diags Am Arch 120 261-5 O 12 '21; Discussion. 120:316-17 O 26 '21
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Interiors adapted from the Italian. W. F. Wheeler. II plans Arch Forum 35:112-17, pl 45-6 S '21
- Italian renaissance details; a collection of measured drawings by W. D. Foster. II diags plans Arch Forum 32:119-22, 245-8; 33 143-6 Mr, Je, O '20
- See also Architecture, Domestic—Italy
- Architecture, Mayan**
See also Southwest museum, Los Angeles
- Architecture, Medieval**
See also Prague—Architecture
- Architecture, Renaissance**
Italian renaissance details. II diags Arch Forum 32:119-22, 245-8, 33 143-6 Mr, Je, O '20
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- Architecture, Russian**
Slav temperament in architecture. L. V. Solon. II Arch Rec 47 371-6 Ap '20
- Architecture, Spanish**
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- Impressions of the colonial architecture of Mexico. W. H. Kilham. II Arch Forum 34: 38-44, 85-90 F-Mr '21
- Mission Inn at Riverside, California. D. J. Baum. II plan Am Arch 118 201-7 Ag 18 '20
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- See also Architecture—Spain
- Arcs**
Laying out a circular arc when center is unknown or unavailable. W. S. Ayars. Am Mach 54:112-13 Ja 20 '21
- Arctic exploration**
Tractor to figure in Arctic exploration. II Pop Mech 34:483 O '20
- Arctics.** See Overshoes
- Area measurement**
Area measurement of leather. F. J. Schlink. II diags U S Bur Stand Tech Pa 153:1-47 '20
- Areas of segments of circles. D. W. Starkey. diag Eng N 84:880 Ap 29 '20
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Argentina—Continued**Commerce**

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Automobile parts

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Automobile service stations—Continued

- House behind the car. *Il Motor Age* 37 11-14 F 5 '20
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See also Garages; Gasoline service stations

Equipment

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Forms, blanks, etc.

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Management

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- Finding the hidden profits in your repair shop. *Il Motor Age* 37:10-12 Mr 11 '20
- Half-dozen ways you can check your service losses. *Il Motor Age* 38:8-9 S 16 '20
- If I ever run a service station. *Il Motor Age* 38 19+ J1 1 '20
- Keeping your men interested in their work. *Il diags Motor Age* 38:10-13 J1 8 '20
- Making the shop pay; a combination salary and bonus system. J. M. Bohler. *Motor Age* 38 10-12 O 21 '20
- Selling service. E. V. Derks. *Motor Age* 37:19+ Ap 8 '20
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Women's rooms

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Automobile sleds. See Motor sleds

Automobile steel. See Steel, Automobile

Automobile tires. See Tires, Automobile

Automobile touring

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See also Motor caravans

Automobile traffic. See Road traffic; Street traffic

Automobiles

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Automobiles—Continued

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Automobiles—Continued

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Automobiles—Equipment and supplies—Cont.
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See also Air brakes, Automobile; Automobile engines; Automobile engines—Mufflers; Automobile industry and trade—Automobile accessories; Automobile locks; Automobiles—Bolts; Automobiles—Electric equipment; Automobiles—Mud guards; Automobiles—Windshields, Brakes, Automobile; Carbureters; Fuelizer; Magnetos; Shock absorbers; Spark plugs; Tires, Automobile

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D. S. Hatch. 11 Motor Age 37:7-10 Ja 1 '20
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Body features at the New York show. G. J. Mercer. 11 Automotive Ind 43:300-5 Ja 22 '20
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Chicago's show maintenance. B. M. Ikert. 11 Motor Age 37:9-13+ J. '20
Closed cars predominate at Philadelphia show. 11 Motor Age 37:12-13 Ja 22 '20
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J. E. Schipper. 11 Automotive Ind 42:51-8 Ja 8 '20
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W. F. Bradley. 11 Automotive Ind 45:758-63 O 20 '21
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Filling stations

See Gasoline service stations

Fuel

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Hubs

See Automobiles—Wheels

Ignition

See Automobile engines—Ignition devices

Insurance

See Insurance, Automobile

Law

See Automobile laws and regulations

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Abutments

Concrete abutment of thin walls tied by diaphragm; special design used in Illinois highway viaduct saves material. *il* diags Eng N 85:861-2 S 30 '20

Approaches

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Arches

See Bridges, Arched

Contracts

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Bridges—Cost—Continued

Floors for railway under-bridges. diag Eng-
neer 129:391-4, 416-18 Ap 16-23 '20

See also Bridges—Estimates

Design

See Bridge design

Erection

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grade. il diag plans Eng N 86:284-7 F 17
'21

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derrick. diag Pub Works 49:211-12 S 4
'20

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ment. il Ry Age 68 1479-80 My 21 '20

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bers of large bascule. il Eng N 84:79-80 Ja 8
'20

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out special equipment il diag Pub Works
51 78-9, 97-8, 116-18, 151-3, 171-2, 206-8, 224-
6 J1 23-Ag 6, 20-27, S 10-17 '21

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diag Pub Works 48 437-9 My 22 '20

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Pub Works 48 345-7 Ap 24 '20

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Pub Works 48 237-9 Mr 27 '20

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bridge over Thames river il diag Ry Age
69:433-8 S 10 '20; Abstract. Eng & Contr
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without falsework il Eng & Contr 54:514
N 24 '20

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Works 48 111-12 F 21 '20

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Wash F. A. Rapp. il diag plan Eng N 84:
718-22 Ap 8 '20

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acterize Fairmont bridge C. F. Bornefeld.
il diag plan Concrete 19 46-51, 76-9 Ag
'21

Use tide to install huge steel bridge span
il Pop Mech 31 643 N '20

Estimates

Formula and curves for approximating bridge
costs C. D. Snead Eng & Contr 53:108-9
Ja 28 '20

Failures

See Bridge failures

Fires

Fires in treated bridge floors. Eng N 84:779
Ap 15 '20

Floors

Asphaltic oil and sand as a protective mat
on bridges. A. A. Russell il Good Roads
n s 21:78 F 2 '21

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bridge floors. M. W. Torkelson. diag Eng
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Tiedeman 86:960 Je 2 '21

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crete diag Eng N 85:468-9 S 2 '20

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N 86:523 Mr 24 '21

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J. G. McMillan. Eng N 84:437-8 F 26 '20

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Pop Mech 33:203 F '20

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Chicago bridges F. H. Avery. il diag Eng
N 83:866-7 N 13 '19

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Allegheny river bridge piers. il Pub Works
49:67-9 J1 24 '20

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air bell. W. M. Ray. il diag Eng N 85:379
Ag 19 '20

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water. Pub Works 51:323-5 O 22 '21

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piers, Hamilton, O. il diag plans Eng &
Contr 55:280-2 Mr 23 '21

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bridge. J. H. Merriam. il diag plans Eng N
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tions. L. N. Edwards. il Can Eng 40:227-32
F 17 '21; Same. Eng & Contr 55:523-6 My
25 '21

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il diag plans Pub Works 49:206-8 S 4 '20

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at Seattle F. A. Rapp. il diag plans Eng
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stone arch bridge foundation level. il
diag plan Eng & Contr 54:155-7 Ag 18
'20

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Bridge, Washington. J. T. Tolman. il diag
plan Eng & Contr 53:332-4 Mr 24 '20

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bridge. il diag Ry Age 69:433-8 S 10 '20

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bridge. diag plans Eng N 84:824-5 Ap 22
'20

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Works 49 576-7 D 18 '20

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river. diag plans Eng & Contr 53:106-7 Ja
28 '20

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struction. il diag Eng N 87 188-90 Ag 4 '21

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Works 51 342-3 O 29 '21

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plans Boston Soc C E J 7 177-99 Je '20;
Same Eng & Contr 54 85-8 J1 28 '20

See also Cofferdams; Piles and pile driv-
ing

Inspection

See Bridge inspection

Load

Analysis of roughness impact on highway
bridges W. Whited. diag Eng N 86:582-3
Ap 7 '21

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road bridges C. F. Loweth. chart diag
W Soc E J 26 248-58 J1 '21; Abstract. Ry
Age 70 789-92 Mr 25 '21; Same. Eng &
Contr 55 420-2 Ap 27 '21

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study. Eng N 85:533 S 16 '20

Field for experiment: highway bridges and
motor trucks Eng N 85:485 S 9 '20

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symposium. Eng N 86 214-17 F 3 '21

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concrete bridges H. M. Gibb. Eng N 84:
874-5 Ap 29 '20

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J. Pereday. Engineering 112 80 J1 8 '21;

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'21

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bridges. Eng N 84:1209-10 Je 17 '20

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on highway bridges. J. E. Kirkham. Eng
N 85 957-78 N 11 '20

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a new formula. W. T. Everall. Eng N 85:
474 S 2 '20

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en Pologne M. Thuillie. diag Génie Civil
77:293-5 O 9 '20

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ses in girder spans for smooth rolling
loads. F. W. Gardiner. diag Eng &
Contr 54:605-8 D 22 '20

Results of impact tests on bridges in Eng-
land. Eng N 87:642-5 O 20 '21

Bridges—Load—Continued

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See also Bridge design

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Anchor pins of Cornwall cantilever bridge bored out and renewed. H. T. Welty. Il diags Eng N 84:453-6 Mr 4 '20, Abstract. Engineering 109:790-1 Je 11 '20
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 Possibilities in bridge reinforcement. Eng N 84:306-7 F 12 '20
 Reinforcing a bridge corroded by locomotive gases. Eng N 86:959 Je 2 '21
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See also Bridges—Reconstruction

Moving

See Bridge moving

Numbering

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Painting

See Bridge painting

Pictures

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See also Bridge painting

Reconstruction

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 Assuring safety in old highway bridges. M. W. Torkelson. Eng N 86:61-3 Ja 13 '21; Discussion. M. Goodkind. 86:311-12 F 17 '21

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Widening

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Short-span highway bridges. il Pub Works 50: 350-3 Ap 23 '21

Slab and beam bridge with stone arch face. J. Owen. il Pub Works 51:137-9 Ag 20 '21

Three longest consecutive arch spans characterize Fairmont bridge. C. F. Bornfeld. il diag plan Concrete 19:46-51, 76-9 Ag '21

Through concrete arch bridge to give large waterway. F. W. Epps. il diag Eng N 83:994-5 D 11 '19

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Specifications

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See also Bridges, Bascule

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in relation to coal stocks. F. G. Tryon.

Byproduct, steel and electric utility plants
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See also Coal cleaning
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See also Coal trimmers, Mechanical

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See also Coal piers

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Coalite

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Coast artillery. *See* United States—Army—Coast artillery

Coast guard. *See* United States—Coast guard

Coasting

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See also Electric railroads—Coasting

Coated paper. *See* Paper finishing

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- Freezing**
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See Waterproofing

Wrecking

See Wrecking

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Concrete construction, Subaqueous
 Caisson system of reinforced concrete jetty construction at Cape Thevenard, South Australia. E. G. Stone. diags plan Eng & Contr 55:320-1 Mr 30 '21
 Method of constructing cofferdams for Key Bridge, Washington. J. T. Tolman. *Il* diags plan Eng & Contr 53:332-4 Mr 24 '20
 Methods of placing concrete under water. H. R. Lordly. *Il* diags Eng & Contr 53:571-3 My 19 '20
 New intake and sedimentation basin at Sarnia, Ont. F. W. Thorold. *Il* plans *Can Eng* 38:413-16 Ap 29 '20, Excerpt. Eng & Contr 53:670 Je 9 '20
 Pearl harbor dry dock pump well large precast unit. R. W. Gaylord. *Il* diags plan Eng N 83:861-4 N 13 '19
Concrete construction in mines
 Alteration in a ventilation shaft. J. H. Stovel. *Il* diag plan Eng & Min J 111:96-7 Ja 15 '21
 Building reinforced-concrete shaft houses. J. E. Hayden and L. Eaton. *Il* diags *Min & Met* 164:25-6 Ag '20
 Concrete overcast where rods in part replace rails, lowering cost. diags *Coal Age* 18:735 O 7 '20
 Concrete shaft houses at Ishpeming iron mines. J. E. Hayden and L. Eaton. *Il* *Concrete* 17:191-3 D '20
 Concreting the Chief consolidated shaft at Eureka, Utah. R. D. Gardner. *Il* diags Eng & Min J 110:460-2 S 4 '20
 Engineers and architects in artistic collaboration. A. T. North. *Il* diags *Am Arch* 118: 783-7+ D 15 '20
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 Lining a shaft with concrete and gunite without interfering with operation. R. H. Gillespie. diags *Coal Age* 20:287-90 Ag 25 '21
 New concrete shaft of the Chief consolidated mining company. A. B. Parsons. *Il* diags plan *Min & Sci P* 122:595-600 Ap 30 '21
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Concrete construction in winter
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 Concrete construction in zero weather. *Il* Eng & Contr 54:518 N 24 '20
 Concreting in cold weather. *Am Arch* 120: 326-7 O 26 '21

Concrete construction in winter—Continued

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- Doing concrete work in freezing weather. T. S. Burns. diag Pop Mech 33:286 F '20
- Don't stop work when the mercury drops. II Bldg Age 42:56-7 F '20
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- Hyman tannery building, London, Ont. R. E. W. Hagarty. II Can Eng 38:496-7 My 27 '20
- Method of protecting concrete in zero weather construction operations. diag Eng & Contr 53:297 Mr 17 '20
- Novel method of heating aggregates for cold weather paving job. diags Eng & Contr 54:447 N 3 '20
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- Winter work on a Quebec water-power development II plan Eng N 86:1123-5 Je 30 '21
- Zero weather construction on Somerset hotel. S. N. Crowen. Concrete 17:190 D '20
- Concrete culverts. See Culverts, Concrete
- Concrete dams. See Dams, Concrete
- Concrete dikes. See Dikes, Concrete
- Concrete fish troughs. See Fish troughs, Concrete
- Concrete floors. See Floors, Concrete
- Concrete flumes. See Flumes, Concrete
- Concrete footings. See Column footings, Concrete
- Concrete garages. See Garages, Concrete
- Concrete gun
- Tunnel concrete lining placed by pneumatic gun. W. D. Shannon. II diags Eng N 87:14-15 JI 7 '21
- Concrete handling
- Aggregates for concrete road job supplied by hydraulic plant. II Eng & Contr 55:209 Mr 2 '21
- Bucket with bottom door speeds concrete work. II Pop Mech 33:89 Ja '20
- Handling aggregate on a Massachusetts road job. A. G. Watt. II Concrete 19:84 Ag '21
- Handling aggregate with a drag scraper. H. W. Walter. II Eng N 85:90 JI 8 '20
- Handling aggregate with wagon loaders and tractors. II Eng & Contr 55:212 Mr 2 '21
- Handling concrete aggregate. Pub Works 48:240 Mr 27 '20
- Marketing ready-mixed concrete from product plants. A. J. R. Curtis. II Concrete 18:200-1 Ap '21
- Mechanical loader cuts road concreting crew to 13 men. II Eng & Contr 55:9 Ja 5 '21; Same. Concrete 18:93 F '21; Same cond. Eng N 86:170-1 Ja 27 '21
- New concrete materials conveyor. II Good Roads n s 19:74 F 4 '20
- Serving concrete paving mixers from central storage plants. Pub Works 50:454-5 My 28 '21
- Stamp mixer loader for concrete highway work. II diags Pub Works 50:801 F 26 '21
- Tall-gate measuring box minimises handling of road materials. II Eng N 86:695 Ap 21 '21
- Trestle unloading and storage arrangement for aggregate for concrete road. II Eng & Contr 53:632 Je 2 '20

Use of portable track and cars in concrete construction. W. W. Hay. Concrete 17:128-30 O '20

See also Gravel handling

Concrete houses

- Architecture of the small concrete house. R. E. Williamson. II diags plan Concrete 18:15-19, 61-5 Ja-F '21
- Building monolithic concrete houses on Long Island. F. F. Wilson. II diags plans Concrete 18:33-6 Ja '21
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- Concrete building units in England. J. T. Stewart. Concrete 18:115 Mr '21
- Concrete bungalow made in two and a half hours. II Pop Mech 36:332-3 Ag '21
- Concrete cottages in England. II plans Concrete 16:44-5, 178 Ja, Ap '20
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- Concrete houses in France and Italy. II Concrete 17:159-60 N '20
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- Development of concrete for housing in England. II diags Concrete 18:279-81 Je '21
- Easy-to-keep house. M. D. Morrill. diags plans Concrete 16:37-42 Ja '20
- Elliott system houses built of pre-cast pan-shaped units. II diags plan Concrete 18:41-2 Ja '21
- First Portland cement concrete houses. W. H. Pope. II Concrete 19:122 S '21
- Four concrete houses in Syracuse. H. Whipple. II diags plans Concrete 18:3-7, 106 Ja, Mr '21
- German concrete houses poured to full height in one operation. II Eng N 87:201 Ag 4 '21
- Houses by the bucketful. F. H. Hazard. II Sci Am 121:553 D 6 '19
- How a woman builds houses to sell at a profit for \$4,000. K. Gleason. II diags plans Concrete 18:8-14 Ja '21
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- How will the individual builder get a concrete house? H. Whipple. Concrete 16:1-2, 27-8 Ja '20
- Living in concrete houses. W. E. Andrews and others. II diags Concrete 16:3-7 Ja '20
- Low labor cost on Milwaukee double wall house. II plan Concrete 18:25-6 Ja '21
- Machine-made reinforced concrete houses and other structures. F. G. Engholm. II diags plan Can Eng 40:337-42 Mr 31 '21
- Monolithic concrete houses. Can Eng 38:451-3 My 6 '20
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- National conference on concrete house construction, Chicago, Feb. 17-19. Am Arch 117:229-30 F 18 '20

Concrete houses—Continued

- New method of gunite wall construction reduces cost to fifty cents per square foot. R. H. Gillespie. *ii* diag Can Eng 38:480-2 My 20 '20
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- One-piece house; Simon Lake's scheme for producing ready-to-live-in concrete unit dwellings and transporting them to the site. H. A. Mount. *ii* Sci Am 124:424-5 My 28 '21
- Patterson double wall and floor system. *ii* diag Concrete 19:118 S '21
- Plans of a six-room colonial cottage. *ii* plans Concrete 19:29 J1 '21
- Plastered or concrete gun types of concrete houses. Eng & Contr 53:325 Mr 24 '20; Same. Can Eng 38:361-2 Ap 8 '20
- Recommended practice for concrete house construction; report of committee of American concrete institute. Concrete 18:114-15 Mr '21; Same abr. Eng & Contr 55:278 Mr 23 '21
- Reinforced concrete bungalow supported by round columns. B. R. Canfield. *ii* diag plan Concrete 18:146-7 Mr '21
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- Solving the concrete house design problem. R. B. Williamson. Arch & Bldg 53:56-7, Dwelling house series 11-12 J1 '21
- Southern California home of H. L. Hitchcock, built of double wall concrete. C. M. Winslow. *ii* plan Concrete 19:54-7 Ag '21
- Systems of monolithic concrete house construction. *ii* diag plans Eng & Contr 54:179-82 Ag 25 '20
- Texas houses combine precast and monolithic construction. S. B. Moore. *ii* diag plans Concrete 18:249-54 Je '20
- Type of double-walled concrete construction suitable for small homes. *ii* diag plan Bldg Age 42:38-41 My '20
- See also* Concrete construction; Floors, Concrete; National conference on concrete house construction
- Cost**
- Acme system hollow wall houses. *ii* diag Concrete 18:40-1 Ja '21
- Concrete house costs 12 per cent. more than frame. *ii* plan Concrete 19:67-8 Ag '21
- Costs on steel formed houses in Massachusetts. L. H. Allen. *ii* Concrete 18:23-4 Ja '21
- Further cost and construction notes on Ingersoll system houses. *ii* Concrete 18:27-30 Ja '21
- Quantity construction of houses cheaper with concrete. *ii* diag plans Concrete 16:176-7 Ap '20
- Concrete housing conference.** *See* National conference on concrete house construction
- Concrete institute, American.** *See* American concrete institute
- Concrete lining**
- Circular forms and tamped concrete hold swelling tunnel ground; San Pablo tunnel. *ii* diag Eng N 86:787 Ap 28 '21
- Concrete for lining railroad tunnel poured through 50-ft. drill holes. *ii* diag Eng & Contr 54:159-80 Ag 18 '20
- Concrete lined irrigation canals; with cost tables. A. N. Burch. *ii* diag plans Concrete 16:244-6 My '20; Excerpt (table). Eng & Contr 53:556 My 12 '20; Eng N 84:975 My 18 '20
- Concrete lining for cast iron tunnel. *ii* Pub Works 49:247-9, 471-3, 511-12 S 18, N 20-27 '20
- Lay concrete channel lining with large traveling form. *ii* diag Eng N 84:1056-8 My 27 '20
- Lining a 20 foot well, 80 feet deep. Pub Works 50:507-9 Je 11 '21
- Lining canals with concrete without forms. K. Sanborn. *ii* diag Concrete 17:167-9 N '20
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- Lining rock tunnels in New York. *ii* Pub Works 49:185-7 Ag 28 '20
- Method of lining irrigation canal with reinforced concrete. *ii* Eng & Contr 53:35 Ja 14 '20
- Method of lining the Connaught tunnel of Canadian Pacific Ry. *ii* Eng & Contr 55:393-4 Ap 20 '21
- Methods and costs of constructing tunnel for heating and power lines. W. C. Huntington and W. E. Brockway. *ii* diag map Eng & Contr 53:459-62 Ap 21 '20
- Movable form used on channel-concreting job. A. P. Child. *ii* Pop Mech 35:720-1 My '21
- Operation and maintenance of the Gunnison irrigation tunnel. F. D. Pyle. *ii* diag Eng & Contr 54:231-2 S 8 '20
- Placing concrete membrane lining in Herron Hill reservoir by cement gun. *ii* diag Eng N 85:1043-5 N 26 '20
- Plant and equipment for lining the Selkirk tunnel. *ii* Eng N 86:418-20 Mr 10 '21
- Relining a leaky park lake with gunite. D. J. Baker. *ii* Eng N 85:410-11 Ag 26 '20
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- Taylorville dam controlling conduits. *ii* diag Pub Works 48:464-6 My 29 '20
- Tunnel lining continued beyond portals for protection from slides. *ii* Eng N 87:247 Ag 11 '21
- Tunneling and lining the penstocks for the extension to the Niagara Falls power company's station No. 3. G. W. Hewitt. *ii* Eng N 85:698-701 O 7 '20; Same. Can Eng 39:343-5 S 16 '20
- Tunneling through soft ground. R. W. Jones. *ii* diag Eng & Min J 111:625-6 Ap 9 '21; Same. Eng & Contr 55:583 Je 15 '21
- Water rings in a shaft lined with concrete. *ii* diag Coal Age 18:295 Ag 5 '20
- See also* Cement gun; Concrete construction in mines; Concrete placing; Gunite
- Concrete mangers.** *See* Mangers, Concrete
- Concrete mixers**
- American concrete mixing machinery. *ii* Engineer 130:193-6, 197, 275-6, 343-5, 354, 382-4; 181:60-3 Ag 27, S 17, O 8-15 '20, Ja 21 '21
- Appareil réchauffeur-mélangeur, système Campistrou, pour bétons à liants asphaltiques *ii* diag Génie Civil 79:67 J1 18 '21
- Bétonnière aéro-malaxeur. *ii* diag Génie Civil 78:278 Mr 26 '21
- Care of concrete mixers. L. P. Lessard. *ii* Munic Eng 60:sup23-4 My '21; Same abr. Pub Works 50:437 My 21 '21
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- Concrete-mixer meter pump regulates water supply. *ii* Pop Mech 36:85 J1 '21
- Dunn mixer uses pan and shovel principle. *ii* Concrete 17:176 N '20
- Heavy paver shows speed in handling dry mix. *ii* Concrete 18:210 My '21
- Horizontal revolving tub features concrete mixer. *ii* Pop Mech 35:539 Ap '21
- How a portable mixing plant was used in constructing duct lines. *ii* Eng & Contr 55:234 Mr 9 '21
- Improved concrete mixer. *ii* Bldg Age 43:47 O '21
- Mixing concrete thoroughly, quickly and correctly. *ii* Bldg Age 43:35-7 Mr '21
- Operation and care of concrete mixers. *ii* Pub Works 51:44-6 J1 16 '21
- Pneumatic concrete mixer for Jap tunnel. *ii* diag Pub Works 50:452-4 My 28 '21
- Ransome concrete machinery. *ii* Pub Works 49:328-30 O 2 '20
- Sprenger process of making concrete; abstract. B. Weiss. *ii* diag Mech Eng 43:400 Je '21; Same. Sci Am M 8:563 Je '21
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Concrete mixing

- Analysis of concrete proportioning theories; tests all agree but interpretations differ. Eng & Contr 52:736-8 D 24 '19
- Applying Abrams' water-ratio to proportioning concrete. S. Walker. Concrete 18:261-6 Je '20
- Bureau of standards criticizes Hydro's method of proportioning concrete materials. Can Eng 38:159-61 Ja 22 '20
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- Concrete consistency measured by the flow table. G. M. Williams. II Eng N 84:1044-6 My 27 '20; Same. Eng & Contr 53:623-5 Je 2 '20; Same. Good Roads n s 20:77-80+ Ag 18 '20; Same. Concrete 18:274-7 Je '20; Same. Can Eng 38:545-7 Je 10 '20; Abstract. Sci Am 124:353 Ap 30 '21
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- Proportioning concrete. Bldg Age 42:63-4 Ag '20
- Proportioning concrete from study of the aggregate. G. M. Williams; R. B. Young; H. A. Davis. Eng N 84:811-13 Ap 22 '20
- Proportioning concrete on job by exact methods. R. B. Young and T. V. McCarthy. II Eng N 86:456-8 Mr 17 '21; Discussion. 86:867-8 My 19 '21
- Proportioning slag concrete. W. L. Leach. Concrete 17:131 O '20
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- Recent developments in concrete mixtures. H. C. Boyden. diag R 67:778-83 N 20 '20
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- Wet concrete hauled three miles for pavement base; concrete flows freely after half an hour on the trucks. C. B. Montgomery. plan Eng N 85:885 N 4 '20
- Wet haulage to road excels dry haulage to mixer. II Eng N 85:366-7 Ag 19 '20
- See also Concrete—Aggregate; Concrete mixers; Concrete plants; Gravel handling
- Concrete mixing plants. See Concrete plants
- Concrete pavements. See Pavements, Concrete
- Concrete piling
- Bamboo reinforced concrete piles for bridge foundations. C. J. Carroll. Eng N 87:32 Jl 7 '21
- Bignell-Jones premolded pile. diag Concrete 19:35 Jl '21
- Blumenthal-Gardner concrete piles. II Pub Works 48:341 Ap 17 '20
- Concrete bridge foundation piles. II Pub Works 51:127 Ag 13 '21
- Hollow concrete piling. II Concrete 18:130-1 Mr '21
- How can concrete sheet piles be installed? diag Pub Works 50:41-3 Ja 8 '21
- Long concrete piles built up with cement gun. II plan Eng N 86:420-2 Mr 10 '21
- Murs de quai en pieux-palplanches en béton armé. C. Dantin. II diag Génie Civil 76:425-7 My 8 '20
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- Odd use of paper; cores for cement piling. D. Phillips. II Paper 27:11 D 23 '20
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- Sprayed-concrete piling has paper-tube core. F. B. Howe. II Pop Mech 35:706-7 My '21
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- Concrete pipe association, American. See American concrete pipe association
- Concrete pipes. See Pipes, Concrete
- Concrete placing
- Alkali corroded steel water main protected by concrete; cost tables. G. H. Hand. II Concrete 19:95-6 S '21; Excerpt. Eng & Contr 56:357 O 12 '21
- Belt conveyor used in placing concrete. J. Stearns. II Eng N 87:420 S 8 '21
- Belt conveyors for placing concrete. II Concrete 19:155 O '21
- Concrete chuting plant at Clyde. diag Eng & Contr 52:773 D 31 '19
- Concrete large stock bins. diag Pub Works 51:204-5 S 10 '21
- Concrete small tunnel under difficult circumstances by pneumatic method. diag Eng & Contr 54:486-7 N 17 '20
- Deposition of concrete by chute conveyors. H. A. Cross. II diag plan Engineering 111:479-80 Ap 22 '21

Concrete placing—Continued

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- Holst tower plant kink. W. F. Lockhardt. *diags Concrete* 17:195 D '20
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- Methods of placing concrete under water. H. R. Lordly. *Il diags Eng & Contr* 53:571-3 My 19 '20
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- Tunneling the Belkirks, the pneumatic placing of concrete. *Il Sci Am* 125A:50-1 N '21
- See also* Cement gun; Concrete gun; Concrete plants
- Concrete plants**
- Aggregate storage plant for winter work. *diags plan Eng & Contr* 53:111-12 Ja 28 '20
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Czechoslovakia; Steel industry and trade—
Czechoslovakia; Steel works—Czechoslovakia

D

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Dairy products

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Dams—Continued

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Foundations

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India

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Indiana

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station power of the Middle West. W. L.
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diag. plans Power 52:450-6 S 21 '20

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Northwest. 11 Elec R 76:806-22 My 15 '20

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'21

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western states

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Oregon

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diag. J Elec 45:12-13 J1 1 '20

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station. 11 diag. Power 53:686-93 My 3 '21

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a coal mine. 11 diag. plan Elec W 77:753-
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Wales

See also Hydroelectric plants—Wales

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states

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Cost

See Power cost

Rates

See Electric rates

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See Street railroads—Franchises

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 Trolley freight and motor-truck customers in Massachusetts. II diag map plan Elec Ry J 58:41-7 J1 9 '21
 Trolley freight in New England. R. E. Cosgrove. Elec Ry J 55:197-9 Ja 24 '20
 Trolley freight service will pay. G. W. Ravert. Elec Ry J 57:79-80 Ja 8 '21

History

Electric traction—a review. F. J. Sprague. J Fr Inst 192:291-326 S '21; Abstract. Elec Ry J 57:997-1000 My 28 '21

Information service

Vancouver solves information and complaint problem. Elec Ry J 56:828-9 O 16 '20

Inspection

See also Car inspection

Libraries

Investigating committees should utilize electric railway libraries. L. A. Armistead. Elec Ry J 55:1314 Je 26 '20
 Special libraries in street railway service. D. W. Hyde, Jr. Special Lib 11:165-6 S '20

Maintenance and repair

A. c.-d. c. multiple-unit maintenance on the New Haven. II diag map plan Elec Ry J 55:1147-55 Je 5 '20
 Arc welding in car equipment maintenance. II Elec Ry J 55:574-7 Mr 20 '20
 Atlanta's new emergency truck. II Elec Ry J 58:734 O 22 '21
 Compressor overhauling practice in Buffalo. J. W. Hulme. II Elec Ry J 55:608-9 Mr 20 '20
 Inspection and maintenance of direct-current car control. A. H. Candee. Elec J 17:492-5 O '20
 Inspection and overhauling of city and interurban cars. W. W. Cook. Elec J 16:519-23 D '19
 Keeping the overhead system fit. II Elec Ry J 55:541-5 Mr 20 '20
 Maintenance of railway equipment. F. W. McCloskey. Elec J 17:469-70 O '20
 Maintenance on the B. A. & P. F. W. Beltinger. II Elec Ry J 57:217-19 Ja 29 '21
 New tower truck for Detroit. II Elec Ry J 58:680 O 15 '21
 Quick rehabilitation after a hurricane. II Elec Ry J 55 199-200 Ja 24 '20
 Replacing horses with motors and trucks on the Boston Elevated railway. E. Dana. II map plans Elec Ry J 57 484-6 Mr 12 '21
 Shop kinks from Sioux City, Iowa. C. M. Feist. II Elec Ry J 56:589-92 S 25 '20
 Systematic inspection of car equipments. Elec J 16 579-40 D '19
 Systematic maintenance good investment. J. S. Dean. II Elec Ry J 58:278-82 Ag 20 '21
 See also Car lighting; Cars, Electric re l-road—Repair; Electric railroads—Cost of maintenance and operation, Electric railroads—Equipment and supplies; Electric railroads—Shops; Electric railroads—Track; Street railroads—Track

Management

Ask the car rider. H. V. Bozell. Elec Ry J 57:6-9 Ja 1 '21
 Basing car inspection on energy consumption. L. E. Gould. Elec Ry J 56:267-9 Ag 7 '20
 Car rider's reply on readjustment of securities. B. C. Cobb. Elec Ry J 57:272-3 F 5 '21
 Cutting down operating expenses on a small interurban road. C. T. Dehore. II Elec Ry J 54:915-18 N 15 '19
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 Economies in car operation. F. R. Phillips. Elec Ry J 54:1039-42; Discussion. 1042-6 D 27 '19
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 Electric railway, track and all. M. B. Lambert. Elec Ry J 58:554 O 1 '21
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 Put business common sense into electric railway managing. P. H. Gadsden. Elec Ry J 58:581-2 O 8 '21
 Sell what the public wants. Elec Ry J 56:73-4 J1 10 '20

See also Street railroads—Management

Meters

Efficiency mileometer. C. H. Koehler. Elec Ry J 55:639-40 Mr 27 '20
 How meters induce car-energy savings. L. E. Gould. Elec Ry J 55:644-6 Mr 27 '20
 Human side of energy saving. R. E. Luellen. Elec Ry J 58:728-9 O 22 '21

Electric railroads—Meters—Continued

Substantial energy saving on Philadelphia rapid transit co. II chart Elec Ry J 57:855-60 F 19 '21

Motor bus auxiliaries

More bus feeders for Pacific electric railway. Elec Ry J 57:1014-15 My 28 '21

Motor bus as a supplement to electric railways. R. G. Smith. Elec Ry J 56:784-6 O 16 '20

Motor buses as railway auxiliaries. II Elec Ry J 56:707-9 O 9 '20

Motor vehicle—competitor or ally? G. M. Graham. National automobile chamber of commerce, Inc., 366 Madison ave., New York; Same cond. Elec Ry J 56:795-8 O 16 '20

Power

Automatic substation, Sacramento Northern railroad. W. H. Evans. II plan J Elec 45:132-7 Ag 1 '20; Same. Gen Elec R 23:894-902 N '20

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Distribution problems of interurban railways. J. S. Hagan. Elec Ry J 55:603-6 Mr 20 '20

Do power-saving devices actually save power? W. Arthur. Elec Ry J 55:649 Mr 27 '20

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How meters induce car-energy savings. L. E. Gould. Elec Ry J 55:644-6 Mr 27 '20

Human side of energy saving. R. E. Luellen. Elec Ry J 58:728-9 O 22 '21

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Power indicating and limiting apparatus for the Chicago, Milwaukee & St Paul railroad. B. H. Smith. II diag Elec J 17:42-6 F '20

Power-limiting and indicating system of the C. M. & St P Ry. J. J. Linebaugh. II diag Gen Elec R 23:292-306 Ap '20; Excerpts. Elec Ry J 55:759-61 Ap 10 '20; Excerpt. Ry Age 68:1146 Ap 9 '20

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St Paul electrification results. R. Beeuwkes. diag Elec Ry J 56:227-30 JI 31 '20; Same. Ry Age 69:235-8 Ag 6 '20; Same. Am Inst E E J 39:813-18 S '20, Same. Gen Elec R 23:724-30 S '20; Same cond. J Elec 45:117-18+ Ag 1 '20

Saving electrical energy on the car. L. M. Clark. Elec Ry J 55:647-8 Mr 27 '20

Simple methods of economical operation. C. H. McClintock. II Elec W 77:1481-4 Je 25 '21

Spokane's traction problems are being solved. II map Elec Ry J 56:1090-4 N 27 '20

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Three-wire railway distribution in Wilmington. A. P. Way. chart diag maps Elec Ry J 58:307-11 Ag 27 '21

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Voltage surveys give information for varying station voltage. H. Restofski. diag Elec Ry J 54:976 D 20 '19

What happens at the trolley contact? D. D. Ewing. II diag Elec Ry J 56:863-5 O 23 '20

See also Electric railroads—Coasting; Electric substations, Automatic

Power plants

See Electric plants

Public relations

Forward look in public relations. J. W. Colton. Elec Ry J 55:19-23 Ja 3 '20

Next step in publicity work, suggestions on the proposed use of movies. Elec Ry J 56:604-6, 726, 886, 933-4, 971, 1022-3, 1155-7 S 25, O 9, 23-N 13, D 4 '20

Sincerity, service and salesmanship. J. P. Barnes. Elec Ry J 57:450-2; Discussion. 446 Mr 5 '21

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Symposium on traffic at Toledo meeting of Central electric railway association. Elec Ry J 57:492-4 Mr 12 '21

Purchasing

Correct method of purchasing railway supplies. H. B. Doyle. Elec Ry J 58:604-5 O 8 '21

How purchasing agents can help each other. E. E. Stigall. Elec Ry J 55:47-8 Ja 3 '20

Should traction companies buy from the manufacturer or jobber? Elec Ry J 56:1085 N 20 '20

See also Electric railroads—Equipment trust

Records

Follow-up system for power saving. C. V. Wood, Jr. II Elec Ry J 58:681-3 O 15 '21

Keeping the overhead system fit. II Elec Ry J 55:591-5 Mr 20 '20

Making the best use of the car equipment. E. H. Scofield. diag Elec Ry J 55:942-6 My 8 '20

Rolling stock

Design, maintenance and operation of electric rolling stock. Elec Ry J 55:1200-4 Je 12 '20

Equipment trust grows in favor. Elec Ry J 55:1047-59 My 22 '20

New electric motor cars for the Long Island. S. B. Schlenck. II Ry Age 68:1964-6 Je 25 '20

New Metropolitan district railway rolling stock. II Elec R (Lond) 88:264-5 Mr 4 '21

New rolling stock ordered in 1920. Elec Ry J 57:37-40 Ja 1 '21

Ohio-Pennsylvania-West Virginia equipment men exchange experience. Elec Ry J 56:119-22 JI 17 '20

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Steel rolling stock for the Metropolitan district railway. II diag Engineering 111:12-14, 37, 102, pl 2-3, 5 Ja 7-14, 28 '21

2,447 new cars and locomotives ordered in 1919. Elec Ry J 55:49-52 Ja 3 '20

See also Cars; Cars, Electric railroad; Cars, Subway; Street cars

Safety devices and measures

Accident prevention. C. B. Scott. Elec Ry J 56:1199-1200 D 11 '20

Arming on electric trains. Engineer 131:236 Mr 4 '21

Selling trainmen their jobs. W. H. Boyce. Elec Ry J 57:221-2 Ja 29 '21

Should accident prevention standards be adopted? H. G. Winsor. Elec Ry J 56:1198-9 D 11 '20

See also Street railroads—Safety devices and measures

Scrap material

Reclamation shop effects saving of more than \$86,000 in 1919. II diag Elec Ry J 55:535-90 Mr 20 '20

Electric railroads—Scrap material—Continued
Salvaging scrap material: Pacific Electric
railway. C. A. Elliott. il Elec Ry J 56:
1060-1 N 20 '20

Securities

See Street railroads—Securities

Shops

Armature record tags. J: S. Dean. Elec J
18:108 Mr '21
Comments on reducing shop costs J. M.
Bosenbury. Elec Ry J 57:557-8 Mr 19 '21
Cutting out waste in the shop. il diag Elec
Ry J 58:193-8 Ag 6 '21
Electric welding for railway shops. Elec Ry
J 56:977-8 N 6 '20
Equipment repairs on Long Island railroad.
il Elec Ry J 55:1136-46 Je 5 '20
Few Chicago shop economies. il diags Elec Ry
J 57:926-9 My 21 '21
Multiple-unit car maintenance on electrified
steam railroads. il Elec Ry J 55:1130-4 Je
5 '20
New shops for Boston. il plan Elec Ry J 57:
555-6 Mr 19 '21
Pacific Electric opens new shop. C. A. Elliott.
il Elec Ry J 55:815-16 Ap 17 '20
Picturing Iowa shop kinks. il Elec Ry J 56:
1046-50 N 20 '20
Recent developments at Calgary. il plans Elec
Ry J 57:886-91 My 14 '21
Reclamation department of Washington
railway & electric company shows large
savings. il Elec Ry J 58:98 JI 16 '21
Reclamation shop effects saving of more than
\$86,000 in 1919. il diag Elec Ry J 55:585-90
Mr 20 '20
Rehabilitating an overhauling shop. H. S.
Sweet. il plans Elec Ry J 55:567-8 Mr 20 '20
Repair shop facilities and equipment. Elec
Ry J 56:976-7 N 6 '20
Repair shops rebuilt in Winnipeg. W. N.
Smith. il diags Elec Ry J 58:437-8 S 17 '21
Shop facilities for maintenance of railway
equipment. H. A. Leonhauser. plan Elec J
18:464-7 O '21
Shop kinks from Sioux City, Iowa. C. M.
Feist. il Elec Ry J 56:589-92 S 25 '20
Shop layouts. Elec Ry J 58:637-9 O 8 '21
Shop notes from Buffalo. il plan Elec Ry J
57:1114-18 Je 18 '21
Shop notes from Deer Lodge, Mont. il Elec
Ry J 57:533-5 Mr 19 '21
Shop notes from Michigan City. il Elec Ry J
58:692-3 O 15 '21
Shop notes from Newark, N.Y. il Elec Ry J
58:99-100 JI 16 '21
Shop notes from Portland railway, light and
power co. il Elec Ry J 57:353-4 F 19 '21
Shop notes from Utica. il Elec Ry J 57:1039-
40 Je 4 '21
Shop notes from Vancouver. il Elec Ry J 57:
275 F 5 '21
Supplying repair parts to shops. W. G. Mur-
rin. map Elec Ry J 56:85-6 JI 10 '20
Systematic maintenance good investment. J:
S. Dean. il Elec Ry J 58:278-82 Ag 20 '21
West Alameda shops of the Southern Pacific
company. il J Elec 46:331-2 Ap 1 '21
Wheel pressing made a one-man operation. il
Elec Ry J 55:161-2 Ja 17 '20

Signals

Alternating-current track circuiting. L. H.
Peter. diags Inst E E J 58:491-506 Je '20;
Same cond. Electrician 85:417-19 O 8 '20;
Discussion. Inst E E J 58:891 S '20
Combined signal and switch installation. diag
Elec Ry J 57:728 Ap 16 '21
Combined signal and telephone box. H. Res-
towski. il diag Elec Ry J 54:901 N 15 '19
Dual control signals on the Pacific Electric.
C. A. Elliott. il diag Elec Ry J 56:321-2
Ag 14 '20
Interurban car stop signal. diags Elec Ry J
56:373-4 Ag 21 '20
Keeping the signals up to the mark. C. P.
Nachod. Elec Ry J 55:52 Ja 3 '20
Method of signal maintenance in Chatta-
nooga. Elec Ry J 57:563 Mr 19 '21
Milwaukee company installs signals. il plan
Elec Ry J 55:162-3 Ja 17 '20

New signals at Anderson. il diag Elec Ry J
56:136-6 JI 17 '20
Operating a 14-mile suburban line on a
thirty-second headway. il diags Elec Ry J
55:1306-7 Je 26 '20
Oscillating motor crossing flagman. il Elec
Ry J 55:816-17 Ap 17 '20
Pacific Electric's automatic flagman. C. A.
Elliott. il Elec Ry J 56:280 Ag 7 '20
Signal maintenance and overhead kinks. il
diags Elec Ry J 55:578-80 Mr 20 '20
Signaling the approach of cars for connection.
H. Restofski. diags Elec Ry J 55:596 Mr 20
'20

See also Subways—Signals

Snow protection and removal

Fighting snow in Winnipeg. il Elec Ry J
57:367 F 19 '21
Fighting snow on an electrified railway. A.
C. Carty. Eng & Contr 55:166-7 F 16 '21
Heavy-duty interurban snow plow. M. S.
Ferguson. il Elec Ry J 55:338-9 F 14 '20
Snow fighting methods. E. Sears. il Elec J
18:39-40 Ja '21; Same cond. Elec Ry J 57:
138 Ja 15 '21
Snow fighting on an interurban; Montreal &
Southern Counties railway. il diags plans
Elec Ry J 56:1064-5 N 20 '20

See also Snow melters, Electric; Street
railroads—Snow protection and removal

Standards

A.E.R.E.A. standard material specifications.
T. A. Chance. Elec Ry J 55:111 Ja 10 '20
Present status of standard track spirals. plan
Elec Ry J 55:335-8 F 14 '20
Standardization of overhead line. Elec Ry J
56:598 S 25 '20

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Electric railway section of the Commercial
& financial chronicle (issued twice a
year). maps Comm & Fin Chr 110:(sec 7)
1-152; 111:(sec 2) 1-152 Ap 24, O 30 '20
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1 '21
Railway census figures issued. Elec Ry J 55:
949-52 My 8 '20
Riding habit shows increase. Elec Ry J 56:
616-17 S 25 '20
Statistics of the electric railway industry.
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ways: tabulation. W. D. Bearce. il supp Gen
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Track extensions and reconstruction in 1919
in the United States and Canada. chart
Elec Ry J 55:53-5 Ja 3 '20
Track extensions and reconstruction in 1920
in the United States and Canada. chart
Elec Ry J 57:40-2 Ja 1 '21
Twelve large companies compared. Elec Ry J
56:38 JI 3 '20

Substations

See Electric substations

Switches, frogs, etc.

See Street railroads—Switches, frogs, etc.

Terminals

Freight co-operation at Rochester. L. R.
Brown. il diags plans Elec Ry J 57:762-5 Ap
23 '21
Handling Coney Island's crowds. il map plans
Elec Ry J 55:186-90 Ja 24 '20
Interurban freight terminal opened. plan Elec
Ry J 57:141 Ja 15 '21
Terminal at San Pedro completed. C. A.
Elliott. il Elec Ry J 56:1147-8 D 4 '20
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terurban and steam lines at Los Angeles
ordered to start work at once on new Union
depot. Elec Ry J 57:368 My 7 '21

Electric railroads—Terminals—Continued

W. B. & A. new terminal in Washington. *Il Elec Ry J 57:859 My 7 '21*

See also Street railroads—Terminals

Testing

Atlanta making electrical survey. *Il Elec Ry J 55:435-6 S 17 '21*

Tickets

How to increase ticket sales, J. H. Crall. *Elec Ry J 57:494 Mr 12 '21*

Track

A.E.R.A. committee reports on way matters. *Elec Ry J 57:634-6 Ap 2 '21*

Bonding in special locations, G. H. McKelway. *Il diags Elec Ry J 56:355-9 Ag 21 '20*

Construction and maintenance of grade crossings on Pacific Electric. C. A. Elliott. *Il Elec Ry J 55:995-8 My 15 '20*

Convenient track measuring device. *Il Elec Ry J 57:186 Ja 22 '21*

Field inspection of railway track paving, H. H. George. *Elec Ry J 56:1241-4 D 18 '20*

Labor-saving devices in the way department, C. H. Clark. *Elec Ry J 57:554-5 Mr 19 '21*

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Reclaiming a cast-steel mate. *Il Elec Ry J 57:861 My 7 '21*

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Tie rod specifications assist in reducing failures, H. H. George. *Elec Ry J 55:655-6 Mr 27 '20*

Track labor savers for small railway, A. J. Stratton. *Il Elec Ry J 57:518-21 Mr 19 '21*

22-year-old track in good condition, W. L. Whitlock. *Il Elec Ry J 57:187 Ja 22 '21*

Using the metallic arc for track welding, C. J. Hopkins. *diags Elec Ry J 55:253 Ja 31 '20*

When we build our tracks, R. C. Cram. *Elec Ry J 57:20-3 Ja 1 '21*

See also Electric railroads—Switches, frogs, etc.; Pavements—Cutting; Rails; Street railroads—Curves and turnouts; Street railroads—Track

Traffic

Making continual traffic checks, M. J. Fernon. *Elec Ry J 57:592-3*; Discussion. 590 Mr 26 '21

Successful traffic count on the Beaver Valley. *Elec Ry J 54:865 N 8 '19*

Symposium on traffic at Toledo meeting of Central electric railway association. *Elec Ry J 57:492-4 Mr 12 '21*

What traffic observations are needed, J. Kappayne. *Elec Ry J 57:1171 Je 25 '21*

See also Street railroads—Traffic

Trains

See also Hedwaygraph

Trolley guards

Unusual trolley guard installation. *Il Elec Ry J 56:874 O 23 '20*

Trolley wheels

Steel trolley shortens trolley wheel life, F. H. Miller. *Elec Ry J 57:553-4 Mr 19 '21*

What happens at the trolley contact? D. D. Ewing. *Il diag Elec Ry J 56:863-5 O 23 '20*

Valuation

Economics and equity in valuation, C. B. Cooke, Jr. *Elec Ry J 54:911-14 N 15 '19*

Method used in New Jersey valuation. *Elec Ry J 57:767-70 Ap 23 '21*

Railway valuation in Connecticut, A. E. Knowlton. map *Elec Ry J 57:947-50, 985-93 My 21-28 '21*; Discussion. H. C. Hopson. 58:443-4 S 17 '21

Special franchise valuation, L. R. Brown. *Elec Ry J 57:601-3*; Discussion. 603 Mr 26 '21

Undepreciated valuations urged. *Elec Ry J 55:440-1 F 28 '20*

Valuation and accruing depreciation, P. J. Kealy. *W Soc E J 24 11-14 Ja 5 '20*; Same cond. *Elec Ry J 54:530-1 S 13 '19*

See also Street railroads—Valuation

Wages

Decision of Kansas court of industrial relations as to wages on interurban railways. *Monthly Labor R 19:1412-13 Je '20*

Should the electric railway brain workers organize? *Elec Ry J 55 504-5 Mr 13 '20*

Wages reduced by East Mass. arbitration board. *Elec Ry J 57:963 My 21 '21*

See also Street railroads—Wages

Wiring

Electric railway contact systems, P. Dawson. *Il diags Inst E E J 58:838-49 S '20*; Excerpt. *Elec Ry J 56:1291 D 25 '20*; Discussion. *Inst E E J 58:849-57 S '20*

Method of connecting car wiring to motor leads and ground. *diags Elec J 17:168-9 Ap '20*

Overhead practice and experience in Atlanta. *Il Elec Ry J 55:563-5 Mr 20 '20*

Renewal of the catenary construction in the Hoosac tunnel, L. C. Winship. *Il diag Elec J 18:84-7 Mr '21*

Australia

Some Australian tramway experiences, P. J. Pringle. *Electrician 85:56-7 Ji 9 '20*

Austria

Electric traction in Austria. *diags map Electrician 87:235-9 Ag 19 '21*

Belgium

Belgian light railways being rehabilitated. *Elec Ry J 57:1184 Je 25 '21*

Brazil

General Electric's contribution to the Paulista electrification, W. D. Bearce. *Il diags plan Elec Ry J 57:1079-84 Je 11 '21*

Paulista railway and the Westinghouse locomotives, S. B. Cooper. *Il diag map Elec Ry J 57:1075-9 Je 11 '21*

British Columbia

British Columbia interconnections, J. Lightbody. *Il J Elec 44:491-2 My 15 '20*

California

California and her tractions, E. Hungerford. *Il Elec Ry J 56:304-8, 490-3 Ag 14, S 11 '20*

Canada

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Connecticut

Jitney competition not favored in Connecticut. *Elec Ry J 58:74, 112, 151 Ji 9-23 '21*

Electric railroads—Connecticut—Continued

Many suggestions for relief of electric railways. Elec Ry J 57:95-6 Ja 8 '21
 Railway valuation in Connecticut. A. E. Knowlton, map Elec Ry J 57:947-50, 985-93 My 21-28 '21

England

Baling and Shepherd's Bush railway. 11 diag Electrician 85:154-6 Ag 6 '20

Great Britain

Development of roads and facilities for local passenger transit. J. A. Brodie. Engineering 110:617-20 N 5 '20; Excerpts. Engineer 130:446-8 N 5 '20; Excerpt. Electrician 85:564 N 12 '20
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Illinois

Consolidated statement of the Illinois electric railway companies. Elec Ry J 57:785 Ap 23 '21

Italy

New addition to the Valtellina railway, Lecco to Milan. G. Hulschiner. Elec W 78:230-1 Jl 30 '21

Maryland

Handling shipyard traffic at Sparrows Point, Md. L. H. Palmer. 11 diag plan Elec Ry J 55:930-5 My 8 '20

Massachusetts

How one railway eliminated jitneys. Elec Ry J 55:230-3 Ja 31 '20
 Trolley freight and motor-truck customers. 11 diag map plan Elec Ry J 58:41-7 Jl 9 '21

See also Boston Elevated railway

Michigan

Quick rehabilitation after a hurricane. 11 Elec Ry J 55:199-200 Ja 24 '20

New Jersey

Method used in New Jersey valuation. Elec Ry J 57:767-70 Ap 23 '21

New York

Some Empire United high spots. M. C. Turpin. 11 map Elec Ry J 56:171-4 Jl 24 '20

Oklahoma

Baby electric railroad is a buster; Northeastern Oklahoma railroad company. 11 map Elec Ry J 57:842-5 My 7 '21
 New interurban railway in Oklahoma. 11 map Elec Ry J 56:449-53 S 4 '20

Ontario

Review of present status of Ontario hydro-electric power commission's radial railway projects. Can Eng 38:138-9 Ja 15 '20

Southern states

Random notes about the South. Elec Ry J 55:190-2 Ja 24 '20

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Ohio company starts steel foundry. H. E. Diller. *il* diag Foundry 48:146-50 F 15 '20, Same Iron Tr R 66:490-4 F 12 '20

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Rehabilitate shop in record time; Bryan pattern & machine co. *il* Foundry 48:897-901 N 15 '20

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Well house foundry, Leeds. *il* plans Engineer 132:164, 166-8, 170 Ag 12 '21

See also Brass foundries; Foundry management; Foundry practice; *also* other headings beginning Foundry

Accounting

See Foundry accounting

Drying rooms

Die Voith'sche trockenkammerfeuerung für minderwertige brennstoffe. H. Adammer. *il* diags Stahl & Eisen 41:399-401 Mr 24 '21

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Arc welding equipment in the foundry. W. W. Reddie. *il* Elec J 18:96-9 Mr '21

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Electricity plays important part in Connecticut steel foundry. *il* diags Iron Tr R 66: 816-9 Mr 18 '20

Electricity shop's sole heat source; steel foundry utilizes current for annealing castings and baking molds and cores as well as for melting. *il* E. Diller. *il* Foundry 49:87-91 F 1 '21

Electrifying the foundry core room. J. L. Jones. *il* Elec W 76 1203-4 D 18 '20

Experience with electric core baking. A. D. Dauch. *il* plan Elec W 76 168-70 Ji 24 '20

Foundry applies electricity to many operations. H. R. Simonds. *il* diags Foundry 48 301-3 Ap 15 '20

Foundry is electrically operated. H. E. Diller. Iron Tr R 68:559-63 F 24 '21

Tests conducted of electrically heated core ovens. *il* Iron Age 105 193-5 Ja 15 '20

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Employees

House collection attracts apprentices. *il* Foundry 48 112 Je 1 '20

Immigrants needed by industry. Iron Tr R 66 810-2 Mr 18 '20

Training men for foundry duties. C. C. Schoen. Foundry 18 59-61 Ja 15 '20, Same. Iron Age 105 263-4 Ja 22 '20

See also Founders, Foundry management

Equipment and supplies

Accentuates use of follow board. P. Dwyer. *il* Foundry 49:585-90 Ag 1 '21

Anordnung und bemessung von entstaubungsanlagen für gussputzerellen. W. Kaempfer. diags Stahl & Eisen 41:110-13 Ja 27 '21

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Changes make casting plant efficient. G. H. Manlove. *il* plan Iron Tr R 69:293-5+ Ag 4 '21

Chemist controls all iron mixtures. *il* Foundry 49:59-62 Ja 15 '21

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Choosing correct plant equipment. J. J. Willson. *il* Foundry 48:984-8 D 15 '20

Foundries—Equipment and supplies—Cont.

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- Demand induces change in output; special equipment for the production of automobile and gas engine castings on a large scale. *il plan* Foundry 48:545-50 JI 15 '20
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- Efficient handling of heavy castings in tractor plant. *N. G. Shidle. il Automotive Ind* 43:1328-30 D 30 '20
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- Equipment shows trend of trade. *il Foundry* 48:807-11 O 15 '20, Iron Tr R 67:1007-11 O 7 '20
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- Hand-labor minimized at modern foundry. J. E. McDonald. *il Iron Age* 107:429-31 F 17 '21
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- How Ford cylinder blocks are cast. P. Dwyer. *il plans Foundry* 49:751-8 O 1 '21. Same. Iron Tr R 69:739-46 S 23 '21
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- Inventor installs his own devices, suspended-type molding machines and uses trucks and pouring device. *il Foundry* 49:98-103 F 1 '21
- Keep foundry equipment repaired. D. McLain. Foundry 49:232-1 Mr 15 '21
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- Layout of foundry is flexible; new electric steel plant in Philadelphia. H. E. Diller. *il plan Iron Tr R* 67:1737-42 D 23 '20
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- Plan shop with view to extensions. *il plans Foundry* 48:757-63 O 1 '20
- Pouring head and skim gate. *il diag*s Foundry 48:1000 D 15 '20
- Pulleys predominate in unique shop. P. Dwyer. *il diag Foundry* 49:293-9 Ap 15 '21
- Rebuilding an old English foundry; W. Richards & son. H. C. Estep. *il Foundry* 48:883-94 N 15 '20
- Safety core room is served by elevator. *il Foundry* 48:914 N 15 '20
- Self-propelled trucks reduce costs. R. J. Wean. *il Foundry* 48:576-7+ JI 15 '20
- Small motors are made in new plant; the Evinrude motor co., Milwaukee. *il Foundry* 49:627-30 Ag 15 '21
- Steel foundry has special operating features; National steel foundries, Milwaukee, Wis. *il plan Iron Age* 108:991-5 O 20 '21
- Steel foundry rearranged and enlarged. G. L. Lacher. *il plans Iron Age* 107:1470-4 Je 2 '21
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- Three types of fan blast heating. *il diag* Metal Work 93:638-40 My 21 '20

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- Builds shop where roads converge; steel foundry at McKeesport, Pa. *il Foundry* 48:725-31 S 15 '20
- Changes make casting plant efficient. G. H. Manlove. *il plan Iron Tr R* 69:293-5+ Ag 4 '21
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- Proper lighting means efficiency. J. Brakes, Jr. *il diag* Iron Tr R 67:1061-2+ O 14 '20

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See Foundry management

Foundries—Continued**Safety devices and measures**

- Co-operative methods for preventing foundry accidents. R. A. Salisbury. Eng & Ind Management 6:151-2 Ag 11 '21
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- Cast steel flask clamps. G. W. Childs. diag Foundry 49:350a My 1 '21
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- How rolled steel flasks are made. Il Foundry 49:691-5 S 1 '21; Same. Iron Tr R 69:881-5 O 6 '21

Foundry industry**Advertising**

- Advertising to raise the standards of an industry, the American malleable castings association. J. P. Wilder. Ptr Ink 117:53-4+ O 20 '21

Foundry ladles

- Drying 100-ton ladles. A. E. Dynan. Il Iron Age 107:394 F 10 '21
- Inventor installs his own devices; suspended-type molding machines and uses trucks and pouring device. Il Foundry 49:108 F 1 '21
- Ladle nozzles made in the core room. Il Foundry 49:199+ Mr 1 '20
- One-man ladle for the efficient foundry. Il Sci Am 123:600 D 11 '20
- Tipping gear for a 30-ton ladle. H. Scott. diag Foundry 49:266a Ap 1 '21

Stoppers

- Proved design for ladle stopper. diag plans Foundry 49:219-22 Mr 15 '21

Foundry machinery

- Adaptable moulding and core-making machines. Il diag plans Engineering 111:164-6 F 11 '21
- Coremaking machines. W. H. Parry. Metal Ind 19:107 Mr '21
- Testing machines as related to the foundry. T. Y. Olsen. Il Mach 53 525-30 S 16 '20
- Trend in German practice shown at recent meeting of the Iron foundries association. Il Hermanns Il diag Foundry 49:92-3 F 1 '21
- Woodison compressed air core machine. Il Iron Age 106 1472 D 2 '20; Metal Ind 18: 569 D '20
- See also Casting machines; Molding machines

Exhibitions

- Equipment shows trend of trade. Il Foundry 48:807-14 O 15 '20, Iron Tr R 67 1007-11 O 7 '20
- Exhibition of the American foundrymen's association, and some of its features. Iron Age 106 993-5 O 11 '20
- Foundry show in Bulzium. Sept 18 to Oct. 10. Iron Tr R 69 1091 O 27 '21
- Who and what to see at the Columbus convention. Foundry 48:717-24 S 15 '20; Iron Age 106:837-44 S 30 '20; Iron Tr R 67:927-35 S 30 '20

Foundry management

- American malleable cast iron. H. A. Schwartz. Il charts Iron Tr R 68:1175-80 Ap 28 '21
- Application of time study in the foundry. J. F. Blank. Iron Age 108:958-9 O 13 '21
- Apply premium system to foundries. H. C. Barker. Foundry 49:611-12 Ag 1 '21
- Applying engineering to foundry work. A. W. Bowie. Foundry 49:307-8 Ap 15 '21
- Castings engineer. W. H. Parry. Metal Ind 19:320 Ag '21
- Changing losses to profits in a New England casting plant. H. R. Simonds. Il Iron Tr R 68:1237-43 My 5 '21
- Chart shows the percentage of scrap. Foundry 49:661-2 Ag 15 '21
- Chemist controls all iron mixtures. Il Foundry 49:59-62 Ja 15 '21
- Common labor responds to incentives. J. D. Town. Ind Management 60:422-4 D 1 '20
- Cultivate idea men in foundries. R. R. Clarke. diag plans Foundry 48:384-8 My 15 '20
- Economical control and handling of patterns in a large foundry. W. D. Jones. Am Mach 51:1043-4 D 18 '19
- Efficiency in foundry cleaning rooms. L. M. Krull. Mach 27:972 Je '21
- Foundry design needs study. J. H. Hopp. Foundry 49:345-7 My 1 '21; Excerpt. Iron Age 107:482 F 17 '21
- Foundry of the Homer furnace co. reduces unit cost of manufacture. G. L. Lacher. Il Iron Age 105:191-3 Ja 15 '20; Same. Metal Work 93:109-11 Ja 28 '20
- Foundry turnover and production difficulties met by better conditions. diag chart Automotive Ind 42:705-7 Mr 18 '20
- Importance of inspecting castings. Metal Ind 18:120 Mr '20

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Improved core output from smaller space by providing improved working conditions for girl core-makers. *Il Iron Age 108:927-9 O 13 '21*

Increasing production to meet shorter day. P. R. Ramp. *Iron Age 104:1261-3 D 18 '19*

Job shop adopts specialty methods. R. R. Clarke. *diags Foundry 49:275-9 Ap 1 '21*

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Keeping a perpetual stock inventory. A. S. Keast. *Iron Tr R 66:225 Ja 15 '20*

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New England pattern shop is unique; Bethlehem shipbuilding corp., Fore River plant, Quincy, Mass. H. R. Simonds. *Il Foundry 49:127-32 F 15 '21*

Pattern design affects operating costs. R. Bates. *diags Foundry 49:745 S 15 '21*

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Premium system in the pattern shop. J. H. Klee. *Foundry 48:92 F 1 '20*

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Production processes for the straight run automotive foundry. J. E. Schipper. *Il Automotive Ind 42:1010-14 Ap 29 '20*

Scientific management in an iron foundry. Eng & Contr 52:746-7 D 31 '19

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Training executives for foundries. B. W. Benedict and R. E. Kennedy. *Il chart diag Foundry 48:902-7 N 15 '20*

Utilization of scrap and residues in metal foundries. C. Diegel. *Metal Ind 19:196-7, 247-8 My-Je '21*

See also Foundries—Employees; Foundries—Safety devices and measures; Foundry accounting; Foundry practice; Pattern numbering; Pattern storage

Foundry practice

Accelerating cylinder production. *Il Foundry 48:311-18 Ap 15 '20*

Accentuates use of follow board. P. Dwyer. *Il Foundry 49:585-90 Ag 1 '21*

Adapt ingot foundry to the. H. E. Diller. *Il diag Foundry 48:111-12 J 1 '20*

Adapting a skip hoist to the cupola. *Il Foundry 48:6-10 Ja 1 '20*

Advantages of straight drag core prints. H. N. Tuttle. *Il diags Foundry 47:878-9 D 1 '19*

Air required in baking cores made with linseed oil. A. A. Grubb and U. S. Jamison. *Chem & Met Eng 25:793-5 O 26 '21*

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Bell models made of loam on arbors. *Il diags Foundry 49:211-15 Mr 15 '21*

Bill describes the making of ingot mold rigging. P. Dwyer. *diag Foundry 48:493-5 Je 15 '20*

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British shop casts big ingot mold. *Il Foundry 49:565-6 J 15 '21*

Builds shop where roads converge; steel foundry at McKeesport, Pa. *Il plan Foundry 48:725-31 S 15 '20*

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Clay machinery presents problems. *Il Foundry 49:791-6 O 15 '21*

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Continuous shop is highly efficient. P. Dwyer. *Il diags Foundry 48:625-30 Ag 15 '20*

Conveyors speed foundry's work. H. E. Diller. *Il diags Foundry 48:51-8 Ja 15 '20*

Core making practice in Britain. *Il diags Foundry 49:69-71 Ja 15 '21*

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Corebox gives chance to show ingenuity. W. E. Duggan. *diags Foundry 49:662 Ag 15 '21*

Costs dictate changes in molding. P. Dwyer. *Il plan Foundry 49:501-9 J 1 '21*

Cylinder cores made in green sand. *Il plan Foundry 48:861-6 N 1 '20*

Demand induces change in output; special equipment for the production of automobile and gas engine castings on a large scale. *Il plan Foundry 48:545-50 J 15 '20*

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- Gas engine shop has many novel features; Hercules gas engine co., Evansville, Ind. P. Dwyer. *il* plan Foundry 48:779-84 O 1 '20
- Good rigging essential in sweep molding. G. Boys. *diags* plan Foundry 49:363-1 My 1 '21
- Handling rush work in English shops. J. Pearson. Foundry 48:550 JI 15 '20
- Hawaiian plant makes heavy work. F. J. McGrall. *il* *diags* plan Foundry 49:669-74+ S 1 '21
- Heavy sugar-machinery operations. F. A. Stanley. *il* Am Mach 54:308-9 F 24 '21
- Hollow ware made in an old shop. P. Dwyer. Foundry 49:253-9, 300-2 Ap 1-15 '21
- How a gap-press frame was molded. M. H. Potter. *diags* Foundry 48 700-1 S 1 '20
- How cylinders are made in England. H. C. Estep. *il* plan Foundry 48 933-9 D 1 '20
- How Ford cylinder blocks are cast. P. Dwyer. *il* plans Foundry 49 751-8 O 1 '21, Same Iron Tr R 69 739-46 S 22 '21
- How machine castings are made. *il* Foundry 48 379-83 My 15 '20
- How pattern shop practice affects core-room and foundry methods. J. Nail. *diags* Mach 26 551-3 F '20
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- How treatments affect gear bronze. A. L. Wilson. *il* Foundry 48 915-19 N 15 '20
- Improved method of making steel gear and wheel blanks. G. A. Richardson. *il* *diags* Am Mach 54 981-1 Je 9 '21
- Iron foundry assists pattern shop. H. E. Diller. *il* Foundry 47:887-91 D 15 '19
- Job shop adopts specialty methods. R. R. Clarke. *diags* Foundry 49:275-9 Ap 1 '21
- Labor-saving methods in the foundry. P. F. O'Shea. *il* Am Mach 53 763-4 O 21 '20
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- Loam molding presents difficulties. G. Boys. *il* *diags* Foundry 48 776-9 O 1 '21
- Long time between demand skill. *il* *diag* Foundry 48 777-1 Ap 1 '20
- Making a big job in a small shop; replacing the flywheel on a road engine. G. Boys. *diags* Foundry 49 449-50 Je 1 '21
- Making a green-sand smokestack mold. R. C. Brown. *diag* Foundry 49:619 Ag 1 '21
- Making cast iron washers in quantity. P. Dwyer. *diag* Foundry 48:79 Ja 15 '20
- Making castings for ice machines. *il* Foundry 49 419-23 Je 1 '21
- Making castings used in ship construction. B. Shaw and T. Edgar. *diags* plans Foundry 47:297-300+ " " " " 47-20, 474-8, 523-7, 540-4, 597-600, 647-50, 705-8, 738-41, 785-8, 832-5, 870-3, 902-5, 48:71-4 My 15-D 15 '19, Ja 15 '20
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- Making rubber mold castings. P. Dwyer. *il* Foundry 48:43-8 Ja 15 '20
- Malleable jobbing work equipment in new shop of the Temple malleable iron and steel co. *il* *diag* Foundry 49:171-5+ Mr 1 '21
- Manufacture of household appliances. J. V. Hunter. *il* Am Mach 52:1173-4 Je 8 '20
- Melts gray iron with natural gas. *il* Foundry 49:139-42 F 15 '21
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- Methods for molding smoke stacks. H. N. Tuttle. *diags* Foundry 48:181-3 Mr 1 '20
- Methods of casting manganese-bronze test bars as a check on melts of small castings. E. H. Dix, Jr. *il* Metal Ind 19:375-17 Ag '21; Same. Foundry 49:734-6 S 15 '21
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- Molding a drum with deep sand pockets. E. A. Dixie. *il* Am Mach 52:1056-7 My 13 '20
- Molding a large planer machine bed. J. McMahon. *diag* Foundry 49:94+ F 1 '21
- Molding an annealing barrel. M. E. Duggan. *diags* Mach 27:58 S '20
- Molding an arbor or sand-bar for a cope mold. M. E. Duggan. *diags* Mach 28 232 N '21
- Moulding bronze propellers. C. T. Cleve. Metal Ind 18:10 Ja '20
- Molding cylinders in an Austrian shop. C. Irresberger. *il* *diags* Foundry 49:383-90 My 15 '21
- Molds car wheels on jolt machines. *il* *diag* Foundry 49 709-13 S 15 '21
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- New, improved method of casting propellers. *il* Pop Mech 36:40-1 JI '21
- New method of casting brass and aluminum in a vacuum. R. E. Search. Metal Ind 18: 175 Ap '20
- Novel foundry for making railway brasses. *il* Foundry 47 866-8 D 1 '19
- Oil wells create a castings market; establishment of foundries specializing in well-boring machinery. *il* Foundry 49 515-16 JI 15 '21
- Old timer gives some reminiscences. G. Roys. Foundry 49 683 S 1 '21
- One-piece coreboxes find ready favor. M. E. Duggan. *diags* Foundry 48 522 JI 1 '20
- Operating a pipe fittings foundry. *il* Foundry 49 725-31 S 15 '21
- Operations in a New Orleans foundry engaged in the production of sugar machinery. F. A. Stanley. *il* Am Mach 53 441-2 S 1 '20, Same Chem & Met Eng 25 911 N 10 '20
- Pattern making students make metal core-box. *il* Foundry 17 879 D 1 '19
- Petroleum-blended core oils save on cost over straight linseed product. J. R. Battle. Nat Pat N 13 87+ Mr 2 '21
- Piston rings cast centrifugally. H. E. Diller. *il* Foundry 48:127-32 F 15 '20
- Plow points made on quantity basis. *il* Foundry 48 847-52 N 1 '20
- Pointers on casting monel metal. R. Traut-schold. *il* Foundry 48 649-51 Ag 15 '20
- Position of tensile tests in the foundry. W. A. Gibson. *diag* Iron Age 105:725-8 Mr 11 '20
- Pouring temperatures, how they affect casting shrinkage and solidity. R. R. Clarke. *diags* Metal Ind 19 147-8 Ap '21; Same abr. Foundry 49 731-2 S 15 '21
- Precise inspection of large and irregular curves. E. O. Brower. *diags* Am Mach 54, 60-6 Ja 13 '21
- Problems encountered in gas engine castings. P. Dwyer. *il* Foundry 48:980-3 D 15 '20
- Producing small nonferrous castings. R. H. Sullivan. Metal Ind 19 108-11 Mr '21; Same. Foundry 49 490-3 Je 15 '21
- Propeller wheel mold standardized Thacher process. E. Touceda. *il* Foundry 49 431-5 Je 1 '21, Excerpts Iron Age 107 1310-12 My 19 '21; Min & Met 172:37-8 Ap '21; Sci Am M 3 381-2 Ap '21
- Propellers cast in British shop. W. J. Lambert. *il* *diags* Foundry 49:361-5, 391-6 My 1-15 '21
- Proper metal for piston ring pots. A. Harley. Foundry 48:435 Je 1 '20
- Pulleys predominate in unique shop. P. Dwyer. *il* *diag* Foundry 49:293-9 Ap 15 '21
- Putting more than brass into valves; Jenkins valves. *il* Plumber 95:129-31 Mr 11 '21
- Quantity production of intricate parts. H. R. Simonds. *il* Foundry 49:743 S 15 '21
- Reservoir to pour large mold. *il* Foundry 48: 877-8 N 1 '20
- Rigging for speed in blower work. H. R. Simonds. *il* Foundry 49:359-63 My 1 '21
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Foundry practice—Continued

Sand plays part in poor castings. R. J. Doty.

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Scientific methods needed in foundries. J. E.

Stead. Foundry 48:750 S 15 '20

Scrap should prove object lesson. F. H.

Hurren. diags Foundry 49:262-4 Ap 1 '21

Shop methods of casting locomotive bearings J. V. Hunter. il diags Am Mach 54:

590-2 Ap 7 '21

Simple rig for molding iron sash weights.

J. M. Fackler. diags Foundry 49:451 Je 1

'21

Six propeller blades made in one mold. J. L.

Sendner. il Foundry 48:183 Mr 1 '20

Speed marks auto parts molding. D. M. Avey.

il diag Foundry 47:852-7 D 1 '19

Steel castings made in green sand. W. H.

Roesner. il diags Foundry 49:552-4 Jl 15 '21

Steel foundry cleaning problems. A. W.

Glegg. Foundry 48:941-7 F 1 '20

Steel foundry starts operations. Vulcan iron

works, Wilkes-Barre, Pa. il diags Foundry

48:187-91, 221-6 Mr 1-15 '20

Suggested changes in risers and heads. B.

Shaw. diags Foundry 49:281-2 Ap 1 '21

Tire molds are made as specialties. il plan

Foundry 48:93-8 F 1 '20

Total tonnage handled in the manufacture of

castings. M. Sklovsky. Foundry 49:312-14 Ap

15 '21

Tractor wheel molding simplified. H. N.

Tuttle. diags Foundry 48:350-2 My 1 '20

Typical foundry problems. W. J. Reardon.

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Waste in rolling. il diags Metals. E. H.

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Where risers are used to advantage. M. H.

Potter. diags Foundry 48:77-8 Ja 15 '20

See also Aluminum bronze. Aluminum

founding. Annealing. Brass founding.

Bronze. Cast iron. Chilled iron. Copper

founding. Cupola furnaces. Die casting.

Electric furnaces. Foundries. Foundry ma-

chinery. Iron founding. Iron metallurgy.

Molding machines. Molds. Pattern making.

Pickling (metals). Pig iron. Steel castings.

Type and type founding.

Repair of castings

Burning of flange upon a 16-inch elbow T:

Nelson. diags Foundry 49:116-17 F 1 '21

Study and teaching

Advocates a school for foundrymen. H. IL

Atwater. Foundry 48:870-1 N 1 '20

Tables, calculations, etc.

Control of centrifugal casting by calculation.

R. F. Wood. diags Mech Eng 43:727-8+ N

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How do you determine your mold weights?

J. B. Conway. chart Am Mach 54:743-4 Ap

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Precise inspection of large and irregular

curves. E. O. Brower. diags Am Mach 54:

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Foundry practice, Ancient

Ancient bronze baffles founders: Chinese

war drum cast at the beginning of the

Christian era is a molding enigma. il

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British industry strong and confident. O.

Stubbs. Foundry 49:820-1 O 15 '21

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Fountain pens**Advertising**

Advertising when sales are scarce raises

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Life and use of Fourdrinier wires. C. Hay-

den. Paper 27:15 S 29 '20

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Manufacture and care of Fourdrinier ma-

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Study of the errors involved in solving for

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New concepts of the past century. Sci Am

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Time—the fourth dimension of space. A. II

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Fractures. See Strength of materials**Framing (building)**

Details of heavy timber framing. diags Eng

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Erection derrick falls with steel framework

of school. diags Eng N 85:1294 D 30 '20

Heavy timber framing used for Seattle

transit pier shed il diags Eng N 86:509-10

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Large timber frame to support concrete truss

forms. R. C. Mitchell. il diags plan Eng

N 86:380-1 Mr 3 '21

See also Roofs

Framing of pictures. See Picture frames and framing**Framingham, Massachusetts**

Nation's healthiest town. R. H. Moulton. il

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Changes in cleanness coefficient of Sudbury

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France

City gates of France. J. P. Sims. il plan

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Gas industry—France; Hydroelectric plants

—France; Labor and laboring classes—

France; Merchant marine—France; Rail-

roads—France; Transportation (European

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France—Continued

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Shops

Roofs

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See Gas rates

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12th annual general meeting. *Engineering* 109 352, 370-2, 399-102 M; 12-26 '20, *Engineer* 129 291-3, 318-19 Mr 19-26 '20

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Institute of physics

Foundation of an institute of physics. *Illum Engr* 13:134 Ap '20

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1st congress, Manchester, Jan. 27-29. *Engineering* 111:130-1 F 4 '21; *Engineer* 131:118 F 4 '21

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- Les ponts roulants électriques à commande système Ward Leonard des ateliers de réparations de locomotives de l'état à Sotteville-les-Rouen. *Il* *Génie Civil* 79:281-3 O 1 '21
- Practice in the Chicago & Alton shops. *Il* *Am* Mach 54:594-6 Ap 7 '21
- Preparation of locomotives at terminals and shops; with discussion. *L. R. Pyle. Ry* Age 68:293-7 *Ja* 23 '20; Same. *Ry* Mech Eng 94:106-10 F '20; Same *abr. Ry* R 66:550-3 Ap 3 '20
- Production work in the locomotive shop. *Il* *diags* *Mach* 28:102-5, 228-30 O-N '21
- Reducing cost of car and locomotive repairs. *Ry* R 67:419-22 S 18 '20; Same. *Ry* Mech Eng 94:637-9 O '20
- Reducing cost of locomotive repairs. *S. W. Mullinix. Ry* R 66:795-7, 1012-13 *My* 15, *Je* 12 '20; Same. *Ry* Mech Eng 94:540-4 Ag '20

- Repairing locomotives in our oldest city. *F. H. Colvin. Il* *Am* Mach 53:428-30 Ag 26 '20
- Scheduling and routing systems for locomotive repair shops. *Il* *Ry* R 66:968-71 *Je* 12 '20

Shop scheduling vs. old-fashioned methods.

- Ry* Mech Eng 94:289-90 *My* '20
- Some New England railroad shop repairs. *F. H. Colvin. Il* *Am* Mach 54:911-13 *My* 26 '21
- Union Pacific shops at Cheyenne, Wyo. *E. A. Hancock. Ry* R 66:127-9 *Ja* 24 '20
- Wiring layout for large repair shop. *H. L. Cornelson. Il* *diags* plan *Elec* W 75:944-6 Ap 24 '20

See also Locomotive terminals; Locomotive works; Locomotives—Repair; Railroads—Shops

Equipment

- Electric drop tables. *Phila. & Reading R.R. Il* *diags* *Ry* R 66:47-9 *Ja* 10 '20
- Jigs and devices for locomotive and car shops. *Il* *Ry* Mech Eng 94:657-9 O '20
- Jigs and special devices in locomotive repair shops. *J. C. Bevelle. Il* *diags* *Ry* Mech Eng 93:725-7 D '19
- Locomotive shop equipment on wheels. *J. V. Hunter. Il* *Am* Mach 54:403-4 *Mr* 10 '21
- Micrometer calipers in railway shops. *M. H. Williams. Il* *diags* *Ry* Mech Eng 94:597-600 S '20
- Modern equipment facilitates flue shop work. *Il* *diag* *Ry* Mech Eng 95:554-8 S '21
- New type of erecting aisle saves shop headroom. *diags* *Ry* Age 70:521-2 *Mr* 4 '21
- Repair shop and enginehouse equipment needs. *Ry* Age 70:50-2 *Ja* 7 '21
- Special equipment in a retail boiler shop. *J. V. Hunter. Il* *Am* Mach 54:852-3 *My* 19 '21
- Tools for locomotive steam pipe joints. *F. A. Stanley. Il* *diags* plans *Am* Mach 54:218-20 F 10 '21

Locomotive tenders

- Steam tenders on American locomotives. *Il* *diags* *Engineer* 128:558-9 D 5 '19
- Tender for 2-8-0 type locomotive for the Ministry of munitions. *diags* *Engineering* 110:177 Ag 6 '20
- To prevent freezing in tender hose. *S. W. Williams. diags* *Ry* R 67:796 N 20 '20; Correction. 67:833 N 27 '20
- Two engines for one. *H. T. Walker. Il* *diags* *Sci* Am 122:619+ *Je* 5 '20
- Welded locomotive tender tank. *J. W. Murphy. Il* *diag* *Ry* Mech Eng 95:550 S '21

Locomotive terminal equipment association

- Corporation formed by manufacturers. *Ry* R 66:882 D 13 '19

Locomotive terminals

- Ashmore engine terminal, Lehigh Valley R. R. *Il* *diags* plans *Ry* R 66:904-9 *Je* 5 '20
- Engine terminal for mountain division in Utah. *diags* plans *Eng* N 84:1159-61 *Je* 10 '20
- Engine terminals. *F. F. Gaines. plan Ry* R 67:803-6 N 27 '20
- Field for improvement in terminal design. *C. C. Lance. Ry* R 69:499-51 O 15 '21
- Ideal engine terminal. *diags* *Ry* R 67:307-10, 493-6 Ag 28, O 2 '20
- Improving terminals for Mallet operation; methods for Norfolk & Western at Roanoke, Va. *Il* *diags* plans *Ry* Age 70:1063-8 *My* 6 '21
- Increasing the engine terminal output. *Ry* Age 70:1319-20 *Je* 10 '21
- Intensive operation of locomotive terminals. *L. G. Plant Il* *Ry* R 68:641-4 Ap 23 '21
- Locomotive terminal as an operating factor. *L. G. Plant. Il* *Ry* Age 69:877-9, 929-31, 985-8 N 19-D 3 '20; Excerpts. *Ry* Mech Eng 94:765-7; 95:15-17 D '20-Ja '21
- M. C. builds engine terminal at Niles, Mich. *Il* *diags* plans *Ry* Mech Eng 94:339-43 *Je* '20
- M. C. West division engine terminal at Niles, Mich. *Il* *diags* plans *Ry* R 66:709-17 *My* 1 '20
- M. K. & T. improves its facilities at Oklahoma City; engine terminals and yards reconstructed. *Il* *diags* plan *Ry* Age 71:713-16 O 15 '21

Locomotive terminals—Continued

- Modern engine terminals and repair shops; abstracts. H. E. Stitt. *Il diags Ry R 68:449-54 Mr 19 '21; Ry Age 70:829-32 Ap 1 '21*
- Modern vs. obsolete engine terminals. C. C. Lance. *Il Ry Mech Eng 94:464-5 J1 '20*
- Modernizing locomotive terminals. G. W. Hink. *Il plans Ry R 67:881-7 D 11 '20; Same cond. Am Mach 53:1081-2 D 9 '20; Same cond. Ry Age 69:1024-7 D 10 '20; Same cond. Mech Eng 43:13-16 Ja '21; Same cond. Ry Mech Eng 95:73-6 F '21; Discussion. Ry Age 69:1027 D 10 '20; Mech Eng 43:256-8+ Ap '21. Ry R 68:85-8 Ja 15 '21*
- New engine terminal for Lehigh Valley railroad. *Il diags plans Eng N 84:514-16 Mr 11 '20*
- New locomotive terminal for the M. K. & T. Ry., at Oklahoma City. *Il diags map plans Ry R 68:959-66 Je 25 '21*
- New terminal facilities for the Pere Marquette railroad at New Buffalo, Plymouth and Saginaw, Mich. *Il diags plans Ry R 68:591-7 Ap 16 '21*
- Oklahoma engine terminal and line revision; M. K. & T. Ry. *Il diags plans Eng N 87:440-3 S 15 '21*
- Report on engine terminals, design and operation. Ry Age 68:1752-4 Je 12 '20; Ry R 66:1024-5 Je 19 '20
- Roundhouse up to date. H. C. Prentice. *Il Ry Mech Eng 95:337-40 Je '21*
- Save money in consolidation of locomotive terminals. *Il plans Ry R 69:391-6 S 24 '21*
- Saving money and time at engine terminals. H. L. Cornellison. *Il diags Ry Age 69:483-4 S 17 '20*
- Small engine terminal embodies novel details; Pere Marquette roundhouse at New Buffalo, Mich. *Il diags plan Ry Age 70:543-6 Mr 11 '21*
- Stark engine terminal, Pennsylvania lines West. *Il diags plans Ry R 66:1-11, 86-9 Ja 3, 17 '20*
- Terminal facilities for modern locomotives. Ry Age 71:333-4 Ag 20 '21
- Union Pacific overhauls its engine terminals. *Il diags plan Ry Age 69:557-61 O 1 '20*
- Up-to-date engine terminal management. *Il diags plans Ry R 67:345-56 S 4 '20*
- Watching the performance of an engine terminal. Ry Age 69:190-2 J1 30 '20
- See also Locomotive shops; Roundhouses*

Lighting

- Electrical distribution for modern engine terminals, diags plans Ry R 66:919-24, 67:314 Je 5, Ag 28 '20
- Saving money and time at engine terminals. H. L. Cornellison. *Il diags Ry Age 69:483-4 S 17 '20*

Water supply

- Consumption of water at locomotive terminals. F. D. Yeaton. *Eng & Contr 53:655 Je 9 '20*

Locomotive works

- Armstrong locomotive building at Scotswood. *Il (supp) diags Engine 124:336 7, 540 N 28 '19*
- Beardmore's locomotive works. *Il Engineer 130:149-50 Ag 13 '20*

Locomotives

- Advantages of a liberal motive power policy. *Il diags Ry R 68:559-65 Ap 9 '21*
- Advantages of steam and electric locomotives. J. E. Muhfeld. Ry R 67:653-9 O 30 '20; Same cond. Elec Ry J 56:866-70 O 23 '20; Excerpts. Ry Age 69:739-42 O 29 '20; Excerpts. Am Inst E E J 39:1044-5 D '20; Excerpts. Mech Eng 42:680-4 D '20; Abstract. Eng N 85:353-4 O 28 '20; Abstract. Ry Mech Eng 94:757-9 D '20
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- Advantages of the steam locomotive. F. J. Cole. Ry R 67:659-61 O 30 '20; Same cond. Elec Ry J 56:924-5 O 30 '20; Abstract. Am Inst E E J 39:1047 D '20
- American-built locomotives abroad. Ry R 69:30-1 J1 2 '21
- A.R.A. Mechanical section second annual convention proceedings. Ry Age 68:1629-44, 1737-54 Je 10, 12 '20; Ry R 66:1027-34 Je 19 '20
- Assigning locomotives. G. N. Clouser. Ry Mech Eng 94:684 N '20; Discussion. J. H. Brookes. 95:71-2 F '21
- Association of railway executives demonstrate need of more locomotives. Ry R 67:705 N 6 '20
- Baldwin builds forty locomotives for Southern Pacific. *Il Ry R 68:966-8 Je 25 '21*
- Baldwin built locomotives in Spain. *Il Ry R 69:474-5 O 8 '21*
- Baldwin narrow gage mountain type freight locomotives for the South African railways. *Il Ry R 66:201-2 F 7 '20; Ry Age 68:1455-6 My 21 '20*
- Best friend of Charleston. Ry Age 69:793 N 5 '20
- British locomotives for Belgian state railways. *Il diags plan Ry R 66:917 Je 5 '20*
- Case for the steam locomotives; improved efficiency an alternative to railroad electrification. C. F. Carter. Sci Am 124:66 Ja 22 '21
- Comparison of dimensions and proportions of British locomotives. I. C. Poulthney. *Il Ry Mech Eng 95:539-42, 621-5 S-O '21*
- Conservation of supplies and in operation of locomotive appurtenances Ry Age 71:533-5 S 17 '21
- Consolidation locomotives for the Western Maryland. *Il diags Ry Age 70:1117-20 My 13 '21; Same. Ry Mech Eng 95:419-22 J1 '21; Same cond., with table. Ry R 68:735-7 My 14 '21*
- Constructive motive power policy. Ry Age 71:327-9 Ag 20 '21
- Converting cross compound locomotives to simple. Ry Age 67:1062 N 28 '19; Same Ry Mech Eng 93:700 D '19
- Dynamical reflections of a ride on a footplate. G. Greenhill. Engineer 130:193 Ag 27 '20
- Economic advantages of large freight locomotives. A. F. Stuebing. Ry Age 70:1161-3 My 20 '21; Same. Ry Mech Eng 95:346-8 Je '21; Same cond. Mech Eng 43:459-60 J1 '21; Excerpts. Eng & Contr 56:163 Ag 17 '21
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- Engineer's manual W. P. James 463p W. P. James pub. co. Louisville, Ky '21
- English built locomotives for Indian railways equipped for burning fuel oil. F. C. Coleman. *Il Ry R 68:406-7 Mr 12 '21*
- L'évolution et les progrès de la mécanique appliquée; canons, moteurs d'aviation et locomotives à vapeur. Génie Civil 77:420-2 N 20 '20
- Famous 999 still doing duty. *Il Ry R 67:690-1 N 6 '20*
- Garratt type locomotive for a South African railway. F. C. Coleman. Ry R 66:640-1 Ap 17 '20
- Getting the most out of locomotives. Ry Age 70:1312-14 Je 10 '21
- Great Central railway four-cylinder engines. *Il diags (supp) Engineer 131:660-1 Je 24 '21*
- Heavier Mikado type locomotives cut operating costs on the Baltimore & Ohio. *Il Ry R 69:83-5 J1 16 '21*
- Heavy locomotives for the Southern Pacific. *Il diags Ry Mech Eng 95:481-3 Ag '21; Same. Ry Age 71:15-17 J1 2 '21*
- Heavy switching locomotives for the Grand Trunk. *Il Ry Age 70:338-9 F 4 '21*
- High-pressure geared locomotives from the Bell locomotive works, New York. *Il Engineer 130:461 N 5 '20*
- Historic locomotive for the Chicago pageant. *Il Ry R 69:180-1 Ag 6 '21*
- How the need for more motive power will be met. *Il Ry Age 70:43-6 Ja 7 '21*

Locomotives—Continued

- L. C. motive power program includes heavy switchers. *Il Ry R 69:103-4 JI 23 '21*
- Important Indian locomotive development. F. C. Coleman. *diag Ry R 66:129 Ja 24 '20*
- Jamaica railways, eight-coupled locomotive. *Il diag Engineer 132:48 JI 8 '21*
- Kitson Meyer locomotives, Colombian National Rys. F. C. Coleman. *Il Ry R 66:31 Ja 3 '20*
- Locomotive as an investment. G. M. Basford. *Ry R 66:978-83 Je 12 '20*; Same, with discussion. *Ry Age 68:1743-8 Je 12 '20*; Abstract. *Elec Ry J 55:1204-5 Je 12 '20*
- Locomotive footplate experiences. *Engineer 129:545, 591-2, 130:75, 243-4, 260, 324, 346-7, 367-8, 482-3, 588-9, 654; 131:155-6, 365-6, 449-50, 561, 609-10; 132:102 My 28, Je 11, JI 23, S 10, O 1-15, N 12, D 10, 31 '20, F 11, Ap 8, 29, My 27, Je 10, JI 22 '21*
- Locomotive used as a shell press. *diags Engineering 109:214 F 13 '20*
- Locomotives for Federated Malay states railways. *Il Ry Age 71:119-20 JI 16 '21*
- Locomotives for Norway and China. *Engineering 109:448 Ap 2 '20*
- Locomotives for the Far East. *Il Ry Age 68:1451-2 My 21 '20*
- Locomotives of American design for use in Spain. *Il Ry Age 71:167-8 JI 23 '21*
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- Mechanical characteristics of high-speed, high-power locomotives A. W. Gibbs. *Il diags J Fr Inst 192:469-95 O '21*; Same. *Ry Age 71:987-9, 1057-60 N 19-26 '21*
- Mikado type locomotives on the Great Northern. *Il Ry R 68:405 Mr 12 '21*
- Mountain type freight locomotives for the South African railways. *Ry Mech Eng 94:574 S '20*
- Mountain type locomotives for South African railways. *Il Ry R 66:201-2 F 7 '20*
- Mountain type locomotives for the C. R. I. & P. *Ry Il Ry R 68:127-8 Ja 22 '21*
- Mystery of Trevithick's London locomotives. L. Fendred. *Il diags Engineer 131:242-5 Mr 4 '21*
- New Canadian Pacific locomotives. W. A. Newman. *Il diags Ry Mech Eng 93:631-6 N '19*; Same. *Ry Age 68:173-7 Ja 9 '20*
- New locomotives for the Santa Fe railroad. *Il Ry R 65:947-9 D 27 '19*
- New locomotives for the Union Pacific system. *Il Ry R 67:975-6 D 25 '20*
- New meter gage locomotives for South America; Mallet, Mikado and Santa Fe type. *Il Ry Age 69:839-41 N 12 '20*
- New power for rehabilitation of Mexican railways. *Il Ry R 69:578-80 O 29 '21*
- New power for the United railways of Havana. *Il Ry Age 70:897-8 Ap 8 '21*
- New ten-wheel helping engine on the Midland railway. F. C. Coleman. *Il Ry R 66:657 Ap 17 '20*
- Northern Pacific converts Prairie type to Mikado. *Il diags Ry Age 67:960-2 N 14 '19*; *Ry Mech Eng 93:694-6 D '19*
- Old 999 still in service. R. Howard. *Il Sci Am 123:635 D 25 '20*
- Operating economy of stoker fired locomotives. D. F. Crawford. *Ry Age 68:701-4 Mr 5 '20*; Same. *Ry Mech Eng 94:127-30 Mr '20*
- Operation of American built Pacifics in Spain. E. Maristany. *Il diags Ry R 69:229-31 Ag 20 '21*
- Pacific type locomotives for the Reid Newfoundland. *Il Ry R 68:318 F 26 '21*; Same. *Ry Age 70:994 Ap 22 '21*
- Practical locomotive running and management. W. G. Knight. 541p W. G. Knight, Bedford, Mass. '20
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- Relative advantages of modern steam and electric locomotives. A. W. Gibbs. *Elec Ry J 56:1019-21 N 13 '20*; Excerpts. *Ry Age 69:919-20 N 26 '20*; Excerpts. *Ry Mech Eng 94:763-4 D '20*
- Relative advantages of steam and electric locomotives. F. H. Shepard. *Elec R 77:671-3 O 30 '20*; Same. *Elec Ry J 56:870-1 O 23 '20*; Same. *Ry R 67:692-3 N 6 '20*; Same. *Mech Eng 42:684-5 D '20*; Same abstr. *Ry Age 69:744-6 O 29 '20*; Same cond. *Ry Mech Eng 94:761-2 D '20*; Excerpts. *Engineer 85:854-5 O 28 '20*; Excerpts. *Am Inst E E J 39:1045-6 D '20*; Discussion. *Ry R 67:693-6 N 6 '20*; Same. *Elec Ry J 56:926-8 O 30 '20*
- Righting a wrecked engine without a crane. *Il Pop Mech 35:566 Ap '21*
- Scientific development of the steam locomotive. J. E. Muhlfeld. *Ry Age 67:1139-42, 1197-1202 D 12-19 '19*; Same cond. *Ry Mech Eng 94:76-80, 131-6 F-Mr '20*; Same cond. *Mech Eng 41:864-9 N '19*; Excerpts. *Ry R 65:833-5, 871-4 D 6-13 '19*
- Seventy-three-year-old locomotive Cornwall in service in England. E. C. Poultney. *Il Ry Mech Eng 94:691 N '20*
- Standard locomotives for the Argentine state railways. *Il Ry Age 70:722 Mr 18 '21*
- Steam locomotive as a punch-press. *Il Sci Am 124:487+ Je 11 '21*
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- Suppose the 999 was modernized. L. F. Wilson. *Ry R 69:390-1 S 24 '21*
- Switching locomotives for the Cambria steel co. *Il Ry R 67:542-3 O 9 '20*
- Three-cylinder 4-6-0 type superheater locomotive for the Northeastern railway. *Il diag Engineering 111:222-3, pl 10 F 25 '21*
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- Trevithick's locomotives. E. A. Forward. *diags Engineer 132:211-12 Ag 26 '21*
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- 2-8-0 type superheater locomotive for the Belgian state railways. *Engineering 110:733, 772, pl 71-2 D 3-10 '20*
- Two engines for one. H. T. Walker. *Il diags Sci Am 122:619+ Je 5 '20*
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- Virginian Mallet locomotives. *Il Engineer 128:618 D 19 '19*
- Vitalizing locomotives to improve operation. G. M. Basford. *diags Ry Age 70:1237-31 My 27 '21*; Same. *Ry Mech Eng 95:357-61 Je '21*; Same cond. *Ry R 68:816-20 My 28 '21*; Abstract. *Elec Ry J 57:1036 Je 4 '21*; Discussion. *Ry Mech Eng 95:361 Je '21*
- See also Electric locomotives; Locomotive boilers, and other headings beginning Locomotive; Motor cars (railroad); Railroads; Railroads—Rolling stock; Roundhouses; Steam engines; Stokers, Mechanical; Tractors

Axles

- Pollack methods of axle manufacture. *Il Ry R 66:266-7 F 14 '20*

Locomotives—Continued

Bearings

Shop methods of casting locomotive bearings. J. V. Hunter. *Il diags Am Mach* 54:590-2 Ap 7 '21

Boosters

Booster tests on Temiskaming & Northern Ontario. Ry Age 71:447-8 S 3 '21
Increasing efficiency and capacity of locomotives. B. B. Milner. *chart Ry Age* 68:1251-4 Ap 23 '20
Locomotive booster. *Il Ry R* 67:356-8 S 4 '20
Locomotive booster. Ry Age 71:537-8 S 17 '21; Same. Ry Mech Eng 95:618-19 O '21; Excerpt. Ry R 69:334 S 10 '21
Locomotive booster. J. S. Bell. *diag Ry R* 67:387-8 S 11 '20
Locomotive booster as an operating factor; increases operating capacity of locomotives on Temiskaming and Northern Ontario. *Il charts diags map plan Ry R* 69:461-9 O 8 '21
More starting power for the steam locomotive; the locomotive booster. *Il Sci Am* 123:295-3 S 25 '20
Operating tests of a Pacific type booster locomotive. *Il Ry Age* 69:699-702 O 22 '20; Same. Ry R 67:613-16 O 23 '20
Tiny auxiliary engine starts locomotive in starting. *Il Pop Mech* 35:12-13 Ja '21

Brasses

Improved method of fitting brasses. *diags Ry Mech Eng* 94:302 My '23
Railway machine shop practice. *Il Mach* 27:945-8 Je '21

Cost

Cost of British locomotives. R. E. Thayer. Ry Mech Eng 93:643 N '19
Cost of locomotives for valuation purposes. Ry Age 69:387-90 S 3 '20

Counterbalancing

Effect of locomotive counterbalancing on stresses in rails. Ry Age 68:1084 Ap 2 '20
Modern counterbalancing in locomotives. F. Williams. *Eng & Contr* 55:591 Je 15 '21

Cut off

Automatic cut-off control by back pressure vs. speed. E. S. Pearce. Ry R 69:326-8 S 10 '21
Automatic operation of reverse lever accomplished. E. S. Pearce. *Il diag Ry R* 68:763-70 My 21 '21; Same cond. Ry Mech Eng 95:488-93 Ag '21; Same cond. Ry Age 70:1461-6 Je 24 '21; Discussion. P. A. Lindeman Ry R 69:167-8 Ag 6 '21
Factors limiting automatic locomotive cut-off control. *charts Ry R* 69:165-7 Ag 6 '21

Design

Comparison of locomotive dimensions. L. H. Fry. Ry Mech Eng 95:211-15 Ap '21
Design and tests of freight locomotives on the Pennsylvania railroad. L. H. Fry. *diags Engineering* 111:190-1, 218-19, 245-6 F 18-Mr 4 '21
Design of large locomotives. M. H. Haig. *Il diags Ry Mech Eng* 95:277-82 My '21; Same Mech Eng 43:311-14 My '21; Excerpt. Ry Age 70:1073-4 My 6 '21; Discussion. Mech Eng 43:167-8 Jl '21
Designing locomotives for economical operation. J. Partington. *Il Ry Age* 71:899-903 N 5 '21; Same. Ry Mech Eng 95:673-7 N '21. Same. *Engineering* 112:743-5 N 25 '21; Same cond. Ry R 69:599-602 N 5 '21; Same abr. Mech Eng 43:729-30 N '21; Discussion. Ry Age 71:1151-2 D 10 '21
Features of locomotive design affecting wear on track. F. Williams. *diags Ry R* 68:737-9 My 14 '21
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German standard heavy freight locomotive. *diags Ry R* 67:197-9 Ag 7 '20
Great Northern three-cylinder engine no. 1000. *Il diags plan Engineer* 129:466-72 My 7 '20

Great Western railway eight-coupled mixed traffic engine. *Il diags (supp) Engineer* 129:582 Je 4 '20

Heavy switching locomotive, West Pullman & Southern railroad. *Il diag Ry R* 67:358-9 S 4 '20

Heavy ten-wheel locomotives for switching service for the C. & O. *Il diags plan Ry Age* 68:859-63 Ja 30 '20; Same. Ry Mech Eng 94:11-15 Ja '20

High capacity Consolidation type locomotives. *Il diags Ry R* 69:197-205 Ag 13 '21; Abstract. Sci Am M 4:381-2 O '21

Increasing locomotive operating efficiency. R. S. Mounce. Ry Age 68:1191-6 Ap 16 '20; Same abr. Ry Mech Eng 94:270-4 My '20

Inertia forces of the revolving and reciprocating parts in an Atlantic type locomotive. E. L. Coster. Ry Mech Eng 94:208 Ap '20

Locomotive booster as an operating factor; increases operating capacity of locomotives on Temiskaming and Northern Ontario. *Il charts diags map plan Ry R* 69:461-9 O 8 '21

Locomotives for the Belgian state railways. *Il diags Ry R* 66:555-7 Ap 3 '20; Same. Ry Age 68:1141 Ap 9 '20, Same. Ry Mech Eng 94:274 My '20

London and South-Western railway—new six-coupled goods locomotive *Il diag Engineer* 129:458 Ap 30 '20

Mallet locomotives for the Virginian railway. *Il diags (supp) Engineer* 129:381 Ap 9 '20

Metropolitan railway four-coupled tank engines. *diags Engineer* 131:120-1 F 4 '21

Mikado and Santa Fe type locomotives for the Chicago Rock Island & Pacific Ry *Il diags Ry R* 68:207-8 209 F 5 '21

Mikado type locomotive for C. M. & St. P. Ry. *Il diags Ry R* 67:729-31 N 13 '20

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Mountain type locomotives for the N. Y. N. H. & H. R. R. *Il diags Ry R* 67:666-7 O 30 '20

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North Eastern builds mineral locomotives. R. E. Thayer. *Il diags Ry Mech Eng* 94:505-12 Ag '20

North-Eastern railway—three cylinder fast-goods locomotive. *Il diag Ry R* 67:521-2 My 21 '20

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0-10-0 type superheater locomotive for the Midland railway. *Il diags (supp) Engineering* 109:311, 314 Mr 5 '20

Prairie type locomotives for the Kin Han Ry. *Il diag Ry R* 66:163-4 Ja 31 '20; Ry Age 68:479 F 13 '20; Ry Mech Eng 94:142 Mr '20

Recent designs of twelve-wheel locomotives. *Il Ry Age* 71:251-2 Ag 6 '21

Recent trend of locomotive design in Europe. *diags Mech Eng* 43:189-91 Mr '21

Short histories of famous firms; Messrs. B. Hick and son, Bolton. E. L. Ahrons. *diags Engineer* 130:102-3 Jl 30 '20

Locomotives—Design—Continued

Three-cylinder 0-8-0 type superheater locomotive; North-Eastern railway. diags (supp) *Il Engineering* 109:50, 203 Ja 9, F 13 '20

2-8-0 type superheater locomotive for the Ministry of munitions. diags *Engineering* 110:176, pl 20 Ag 6 '20

2-10-0 type locomotive; Pennsylvania railroad. *Il diags Engineering* 110:538-9, 586-7, pl 64 O 22-29 '20

Draft

Draft appliances; committee report. *Ry R* 67:500-1+ O 2 '20

Lewis draft appliance. diags *Ry Age* 68:1582-3 Je 4 '20

Lewis front end arrangement *diag Ry R* 66:951-2 Je 5 '20

Le tirage continu par turbine, système Daubois, dans les locomotives. H. Daubois *Génie Civil* 78:116-17 Ja 29 '21

What are the most suitable draft appliances? *Ry Age* 69:520-2 S 24 '20; Same. *Ry Mech Eng* 94:627-9 O '20

Driving boxes

Driving box gage. *diag Ry Mech Eng* 95:178 Mr '21

Driving box grooving device *Il diags Ry Mech Eng* 95:192 Mr '21

Driving box liner A. G. Johnson. diags *Ry Mech Eng* 94:130 Mr '20

Novel chuck arrangement for holding driving box. G. Barnstricker. *Il Ry Mech Eng* 94:159 Mr '20

Driving wheels

Forming hub liners on the bulldozer F. G. Lister. diags *Ry Mech Eng* 93:736 D '19

Gage for caliper driving wheels and tires. F. A. Miller diags *Ry Mech Eng* 95:242 Ap '21

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Methods used in locomotive driving wheel, axle and crankpin work. F. A. Stanley. *Il diag Am Mach* 54:1070-2 Je 23 '21

Sharp tire flanges *Ry Mech Eng* 95:70 F '21
Straight vs. coned treads for driving wheels. C. F. Prescott *diag Ry Mech Eng* 95:145-6 Mr '21

Welding a worn driving wheel flange *Il Ry R* 66:338 F 28 '20; Same. *Ry Mech Eng* 94:223-4 Ap '20

Equipment and supplies

Air consumption of locomotive auxiliaries. report. *Ry Mech Eng* 91:295-8 Je '20, Abstracts *Ry Age* 68:1403-5 Mr 14 '20; *Ry R* 66:805-6 My 15 '20

Conservation of supplies and in operation of locomotive appurtenances *Ry Mech Eng* 95:611-16 O '21

Outman safety locomotive cold water sprinkler. diags *Ry Mech Eng* 95:196 Mr '21

Instrument records movements of locomotive. *Il Pop Mech* 33:545 Ap '20

Loco-recorder for road locomotives *Il Ry Mech Eng* 94:306-7 My '20

Locomotive recording instruments. *Il Ry Age* 69:457 S 10 '20

Maintenance of air operated auxiliaries. *Ry Mech Eng* 95:184-7 Ag '21

New hand rail column designs. diags *Ry R* 69:609-10 N 5 '21

Pneumatics promote locomotive efficiency. *Il Ry Mech Eng* 95:133 Jl '21

Recording instruments for switchers. *Il Ry Mech Eng* 94:489-90 Jl '20

Recording locomotive operation C. N. Winter. *Il Sci Am* 125:52 N '21

Smoke duct for tunnel service. *Il Ry R* 66:244 F 14 '20

Special locomotive devices on the Ann Arbor. diags *Ry Mech Eng* 94:444-5 Jl '20

Standard location for water glasses and gage cocks. *diag Ry R* 66:337-8 F 28 '20

Why mechanical men object to modernizing motive power. F. P. Roesch. *Ry R* 69:291-2 S 3 '21

See also Feed water heaters; Injectors; Locomotive boilers; Locomotive fireboxes; Locomotive grates; Locomotive headlights;

Locomotives—Boosters; Locomotives—Gearing; Locomotives—Superheaters; Lubricators; Flange; Rail washers; Stokers, Mechanical; Tachograph

Failures

Crown sheet failure without an explosion. *Il diag Ry Age* 70:885-6 Ap 8 '21; *Ry R* 68:574-5 Ap 9 '21

Locomotive failures J. F. Donellon. *Ry Mech Eng* 93:735 D '19

Report of the Bureau of locomotive inspection. *Ry Age* 69:1071-3 D 17 '20; Same. *Ry Mech Eng* 95:18-20 Ja '21

Standardization of engine failures; abstract of committee report. *Ry R* 67:417-18 S 18 '20

What is a locomotive failure? *Ry R* 69:297-300 S 3 '21

Flue blowers

See Locomotive boilers—Cleaning

Frames

Curing troublesome frame failures. F. Roberts. diags *Ry Mech Eng* 95:252 Ap '21

How a long steel flange is assembled. G. W. Childs. diags *Foundry* 48:923-4 N 15 '20

Front ends

Fuel loss caused by front end air leaks. diags *Ry Age* 69:101-2 Jl 16 '20

How front end air leaks can be prevented. diags *Ry Mech Eng* 94:515-16 Ag '20; Same cond. *Ry Age* 69:101-2 Jl 16 '20

Lewis draft appliance. diags *Ry Age* 68:1582-3 Je 4 '20

Lewis front end arrangement. *diag Ry R* 66:951-2 Je 5 '20

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See also Locomotives—Repair

Fuel

Burning the wood-burning locomotive up to date. *Il Sci Am* 124:453 Ap 30 '21

Le chauffage aux huiles lourdes appliqué aux locomotives L. Pierre-Guédon. diags plans *Génie Civil* 76:329-33 Ap 3 '20

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Locomotives—Fuel—Continued

- International railway fuel association 12th annual meeting. Ry Age 68:1507-14 My 28 '20; Ry R 66:871-8 My 29 '20; Ry Mech Eng 94:445-53 J1 '20
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- See also Oil bunkering stations

Gearing

- Tests of Franklin precision power reverse gear Il Ry Age 70:1043-4 Ap 29 '21; Same. Ry Mech Eng 95:470-1 J1 '21

Inspection

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Lubrication

- Mechanical improvement in oil and waste lubrication. Il diags Ry R 69:272-4 Ag 27 '21
- Plugless grease cup. J. P. Risque. diags Ry Mech Eng 94:141 Mr '20
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See also Lubricators, Flange

Manufacture

- Beardmore's locomotive works. Il Engineer 130:119-50 Ag 13 '20

- Belgian locomotive order completed promptly. Il Ry Age 69:1069 D 17 '20
- Cast iron for locomotive-cylinder parts. C. H. Strand. Il diags U S Bur Stand Tech Pa 173:1-25 '20; Abstracts. Ry Age 69:619-20 O 8 '20; Ry Mech Eng 94:694 N '20; Am Mach 53:1221-2 D 30 '20
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- Short histories of famous firms; Hick, Hargreaves and co. Il diags Engineer 129:644-5 Je 25 '20
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- Short histories of famous firms; Messrs. Rothwell and co. Bolton E. L. Ahrons. Il Engineer 129:598-9 Je 11 '20
- Short histories of famous firms; Messrs. W. and A. Kitching, Hope Town foundry, Darlington E. L. Ahrons. Il diags Engineer 130:419-21 O 29 '20
- Short histories of famous firms; Nasmyth, Wilson and co., limited. Il diags Engineer 129:287-9 Mr 19 '20
- Short histories of famous firms; The railway foundry, Leeds (E. B. Wilson and company). E. L. Ahrons. Il diags Engineer 130:369-72 O 15 '20
- Short histories of famous firms, Vulcan works Il diags Engineer 129:81-5 Ja 23 '20
- Short histories of famous firms, W. Fairbairn & sons, Manchester. E. L. Ahrons. Il diags Engineer 129:181-5 F 20 '20
- Tools for fusible plugs and other locomotive parts. F. A. Stanley Il diags Am Mach 51:985-7 D 11 '19

See also Locomotive works

Operation

- Increasing locomotive mileage. F. P. Roesch. Ry Age 71:498-9 S 10 '21
- Locomotive operation. T. J. Hartnett. Ry R 66:31-3 Ja 3 '20
- Operation and maintenance of oil burning locomotives. Ry R 69:334-6 S 10 '21; Same. Ry Mech Eng 95:747-8 D '21

Performance

- Are modern locomotives efficiently used? Il Ry Age 70:359-62 F 11 '21
- Great Northern three-cylinder engines. Engineer 131:593 Je 3 '21
- Increasing efficiency and capacity of locomotives. B. B. Milner. chart Ry Age 68:1251-4 Ap 23 '20; Same. Ry Mech Eng 94:365-8 My '20; Same. Ry R 66:717-20 My 1 '20
- Locomotive coal consumption. Engineer 131:618, 651, 664 Je 10-21 '21
- Locomotive resistance and mechanical efficiency. K. Asakura. Ry Age 71:211-16 J1 30 '21
- Making motive power management more efficient L. G. Plant. Il Ry R 68:664-7 Ap 30 '21
- Need for increased locomotive efficiency. Ry Age 69:1099-1100 D 24 '20
- Operating economies in longer runs. F. M. Nellis. Il Ry R 68:535-6 Ap 2 '21
- Some recent locomotive work on the L. and N.-W. railway. E. C. Poultney. Engineer 132:344-5, 367-8 S 30-O 7 '21
- Stoker fired locomotive makes continuous run over three divisions. Ry Age 70:703 Mr 18 '21

Locomotives—Performance—Continued

Trials of 0-8-0 type superheater locomotive; North-Eastern railway; charts. *Engineering* 109:209 F 13 '20

Utilizing motive power on the lines of the Delaware & Hudson; effective methods of terminal management permit constant control of locomotives. *F. P. Gutellus. Ry R* 67:961-7 D 25 '20

See also Locomotives—Boosters

Prices

Car and locomotive prices reach peak in 1920. *Ry Age* 70 87-91 Ja 7 '21; Same. *Ry Mech Eng* 95:80-3 F '21

Rating

Tonnage rating for locomotives. *K. D. Ramsay. Ry R* 67:737 N 13 '20

Reconstruction

Increasing the capacity of old locomotives. *C. B. Smith. diag plans Ry R* 67:846-9 D 4 '20; Same. *Am Mach* 53:1094-5 D 9 '20; Same. *Mech Eng* 43:12+ Ja '21; Excerpts. *Ry Age* 69:1115 D 24 '20; Excerpts. *Ry Mech Eng* 95:84 F '21; Discussion. *Ry R* 67:927-33 D 13 '20; *Ry Age* 69:1115-18 D 24 '20; *Ry Mech Eng* 95:84-7 F '21, *Mech Eng* 43:255-6 Ap '21

Repair

Advantages of pins for expanding locomotive truck in entering wedge for business in railroad shops. *R. G. Monroe. Am Gas Eng J* 113 304-7 O 16 '20, Excerpt. *Gas Age* 46:319 O 25 '20

Application of limit gages and progressive sizes in railway machine shops. *H. E. O'Brien. Ry Mech Eng* 95:177-8 Mr '21

Burner removes locomotive tires in ten minutes. *Il Pop Mech* 33 187 F '20

Efficient car straightening frame. *Il diag Ry Mech Eng* 95:31-3 Ja '21

Electric arc welding in railroad shops. *A. M. Candy. Il Ry Mech Eng* 95:456-8 Jl '21

English locomotive repair system. *H. E. O'Brien. Il Ry Mech Eng* 95:119-22 F '21

Frame making and repairing. *F. F. Hoeffle; G. W. Kelly. diag Ry Mech Eng* 94:603-4 S '20

Hearing on Pennsylvania locomotive repairs. *Ry Age* 70:1461-2 Je 24 '21

Hospitals for disabled locomotives. *Il Sci Am* 88:352-3+ D 13 '19

Ideal engine terminal. *diag Ry R* 67:307-10, 493-6 Ag 28, O 2 '20

Labor-saving devices on the Santa Fe. *J. R. Phelps. Il diag Ry Mech Eng* 94:721-2, 795-6 N-D '20

Lining driving box shoes and wedges. *J. McAllister. Il diag Ry Mech Eng* 94:788-91 D '20

Locomotive as an investment. *G. M. Basford. Ry R* 66:978-83 Je 12 '20, Same, with discussion. *Ry Age* 68 1713-8 Je 12 '20

Manufacturing standard locomotive repair parts. *M. H. Williams. diag Ry Mech Eng* 95:451-5, 511-12 Jl-Ag '21

Measurement record for railroad shops. *H. L. Burhus. diag charts Ry Mech Eng* 94 299-301 My '20

Money-saver in locomotive repair; outfit for casting hubliners. *Il Sci Am* 124:493 Je 18 '21

Outside repairs kept Pennsylvania's motive power in service. *Ry R* 68 602-3 Ap 16 '21

Portable locomotive-frame thermite welding outfit. *J. V. Hunter. Il Am Mach* 54 59 Ja 13 '21

Practical reconstruction of old locomotives. *Il diag Ry Age* 70:237-40 Ja 21 '21

Preparation of locomotives at terminals and shops; with discussion. *L. R. Pyle. Ry Age* 68:293-7 Ja 23 '20; Same. *Ry Mech Eng* 94:106-10 F '20; Same abr. *Ry R* 66:550-3 Ap 3 '20

Railway machine shop practice. *E. K. Hammond. Il Mach* 27:721-9, 855-8, 945-8 Ap-Je '21

Reducing cost of car and locomotive repairs. *Ry R* 67:419-23 S 18 '20; Same. *Ry Mech Eng* 94:637-9 O '20

Reducing cost of locomotive repair work. *Mach* 27:856-7 D '20

Reducing cost of locomotive repairs. *S. W. Mullinix. Ry R* 66:795-7, 1013-13 My 15, Je 12 '20; Same. *Ry Mech Eng* 94:540-4 Ag '20

Reducing maintenance cost of valve chamber bushings and packing. *F. Roberts. diag Ry Mech Eng* 95:513-14 Ag '21

Reduction of locomotives unfit for service. *F. H. Hardin. Ry Age* 69:527 S 24 '20

Repetition of work reports. *F. C. Groom. Ry R* 66:115-16 Ja 17 '20

Some notes on erecting shop practice. *C. P. Hubbard. Il Ry Mech Eng* 94:480-1 Jl '20

Speeding up locomotive main rod repairs. *M. H. Williams. Il diag Ry Mech Eng* 95:543-6 S '21

Squaring the frames of French locomotives. *C. E. Lester. Il diag plan Ry Mech Eng* 94:291-2 My '20

Standardization of engine failures and terminal delays. *Ry Mech Eng* 94:634-6 O '20

Successful methods used in repairing side rods. *M. H. Williams. Il diag Ry Mech Eng* 95:639-43 O '21

Suggestions for simplifying locomotive maintenance. *diag Ry R* 69 274-5 Ag 27 '21

Surgical operation performed on a locomotive valve port. *M. R. Feeley. diag Ry Mech Eng* 95:508 Ag '21

Three column frame milling machine. *Il Ry Mech Eng* 95:83 F '21

Up-to-date engine terminal management. *Il diag plans Ry R* 67:345-56 S 4 '20

Use of gunpowder for removing engine bolts. *Il Mach* 26:963 Je '20

Welding locomotive cylinders. *C. E. Farley. Il Ry Mech Eng* 95:247 Ap '21

Welding locomotive frames. *M. C. Whelan. diag Ry Mech Eng* 94:301-2 My '20; Same. *Ry R* 67 460-1 S 25 '20

Why we were forced to contract locomotive repairs. *F. Hardin. Ry R* 68:969-73 Je 25 '21

See also Locomotive shops

Rods

Accomplishment in light reciprocating locomotive parts. *diag Ry Mech Eng* 95:286 My '21

Locomotive main rod angularity. *W. Ulrich. diag Ry Mech Eng* 95:619-20 Ag '21

New rod design. *diag Ry Mech Eng* 95:218 Ap '21

Speeding up locomotive main rod repairs. *M. H. Williams. Il diag Ry Mech Eng* 95:543-6 S '21

Shops

See Locomotive shops

Specifications

Tentative specifications for non-ferrous alloys for railway equipment in ingots, castings, and finished car and tender bearings. *Am Soc T M Pro v* 20 pt 1:528-32 '20

Springs

Equalization of spring rigging. *J. McAllister. diag Ry Mech Eng* 95:38-9 Ja '21

Standards

Standardization of locomotive parts. *F. J. Hookham. Eng & Ind Management* 5:328-9 Mr 17 '21

Statistics

Adequate motive power for railroads a necessity. *Il chart Ry Age* 68 53-6 Ja 2 '20

Few railroad orders for locomotives in 1919. *Il Ry Age* 68 125-7 Ja 2 '20; Excerpt. *Ry Mech Eng* 94:15 Ja '20

Locomotive orders show increase in 1920. *Ry Age* 70 135-41 Ja 7 '21; Excerpts. *Ry Mech Eng* 95 77-8 F '21

Locomotives and rolling stock in 1919. *Il Engineering* 129:18-20 Ja 2 '20

Locomotives and rolling stock of 1920. *Il (supp) diag Engineer* 131:10-12, 14 Ja 7 '21

Stokers

See Stokers, Mechanical

Locomotives—Continued

Superheaters

- Application of superheaters to small locomotives. *il diag Ry R 69:5-6 J 1 '21*
 Handling superheaters on locomotive. P. R. Duffey. *Power 50:670 O 28 '19*
 Installation, operation, care and maintenance of superheater equipment for locomotives; committee report. *Ry R 66:1029-31 Je 19 '20*
 Repairs to superheater units; report of the committee. *Ry R 67:418-19 S 18 '20; Ry Mech Eng 94:636-7 O '20*

Testing

- Performance test of freight locomotives on the Pennsylvania railroad. L. H. Fry. *diags Engineering 111:190-1, 218-19, 245-6 F 18-Mr 4 '21*
 Electric vs. steam—a tug of war. *il Sci Am 121:552 D 6 '19*
 Long stroke cylinder tests on Southern Pacific. *diags Ry Mech Eng 95:613 O '21*
 Nicholson thermic syphon. H. Clewer. *Ry Mech Eng 94:629-30 O '20; Test data. Ry R 67:502-3 O 2 '20*
 Operating tests of a Pacific type booster locomotive. *il Ry Age 69:699-702 O 22 '20; Same. Ry R 67:613-16 O 23 '20*
 Pennsylvania Decapod develops 3,500 horsepower. *diags Ry Age 68:1097-1103 Ap 2 '20, Same. Ry Mech Eng 94:193-9 Ap '20*
 Tests demonstrate precision of new power reverse gear. *il Ry R 68:668-70 Ap 30 '21*
 Tests of a Lancashire and Yorkshire passenger engine. G. H. H. *il Engineer 131:410-11 Ap 15 '21*
 Tests of a Pacific type booster locomotive. *il Ry Mech Eng 94:753-6 D '20*
 Tests of an American locomotive with driven trailing axle. *Engineer 131:593-4 Je 3 '21*

Valves and valve gear

- Automatic exhaust pipe and blower valve. *diags Ry Mech Eng 95:468-9 J 1 '21*
 By-pass relief and drifting valves. *Ry Mech Eng 94:625-7 O '20; Excerpt. Ry R 67:457-8 S 25 '20*
 Design of an improved locomotive throttle valve. W. J. Knox. *diags Ry Mech Eng 95:216-18 Ap '21*
 Development of locomotive valve gear. J. Dunlop. *diags Engineer 129:618-19, 130 15-17, 49-50 Je 18, J 1 2, 16 '20*
 Diameter and travel ratios for locomotive valves and cylinders. O. W. Young. *Ry R 66:924-6 Je 5 '20*
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 Drifting valve. S. H. Lewis. *il Ry Mech Eng 94:391 Je '20*
 Exhaust pipe valve. *diags Ry Mech Eng 94:358 Je '20*
 Fuel economy by accurate valve setting. J. McAllister. *il Ry Mech Eng 95:311-12 My '21*
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 Locomotive valve motion. F. Williams. *diags Ry R 66:832-6 My 22 '20*
 Method for squaring Walschaert valve gear. W. J. Dixon. *Ry Mech Eng 95:189-90 Mr '21*
 New drifting valve uses air pump exhaust. *diags Ry R 69:29 J 1 2 '21*
 Ripken automatic drifting valve for locomotives. *diags Ry Age 67:1079-80 N 28 '19; Same. Ry Mech Eng 93:645-6 N '19*
 Setting locomotive slide valves. G. W. Childs. *diags Power Pl Eng 24:560 Je 1 '20*
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See also Iron industry and trade—Luxemburg; Iron mines and mining—Luxemburg; Steel industry and trade—Luxemburg
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M

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 Building a small track-laying tractor. F. H. Colvin. *Il Am Mach* 53:407-10 F 19 '20
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Machine shop practice—Continued

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- Building saw mill machinery. F. H. Colvin. *Il Am Mach* 53:1030-2 D 2 '20
- Cadillac grinding practice; description of methods employed in the grinding department of a plant building high-grade automobiles. E. K. Hammond. *Il Mach* 27:103-7 O '20
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- Cast-iron and aluminum pistons; the Studebaker and Oakland. F. H. Colvin *Il diags Am Mach* 53:416-21 Ag '20
- Caterpillars and their construction. K. J. Condit. *Il diags Am Mach* 52:33-6, 233-7, 287-91, 343-8 Ja 1, 29-F 12 '20
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- Elementary machine shop practice. T. J. Palmateer. 123p Manual arts press '20
- Elementary machine shop practice. J. A. Pratt. 320p Van Nostrand '21
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- Frames for Fords. F. H. Colvin. *Il Am Mach* 54:368-71 Mr 3 '21
- Franklin transmission case. F. H. Colvin. *Il Am Mach* 53:1001-4 N 25 '20
- Gears for motor transmissions. F. H. Colvin. *Il Am Mach* 54:606-9 Ap 7 '21
- Gravuating, engraving and etching. 60p Industrial press, New York '21
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- Hispano-Suiza airplane engine. H. O. C. Isenberg. *Il diags Am Mach* 51:703-10, 849-56, 1091-6 O 9, N 13, D 25 '19
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- Indexing milling fixtures. *Il diags plan Mach* 26:527-31, 617-19, 721-4 F-Ap '20
- Large machine work at the Puget Sound navy yard. F. H. Colvin. *Il Am Mach* 54:801-3 My 13 '21
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- Little journeys of an editor; repairing steamboats. E. Sheldon. *Il Am Mach* 54:53-9 Ja 13 '21
- Locomotive building in an English shop. I. W. Chubb. *Il Am Mach* 54:713-19 Ap 28 '21
- Machining a gear-type water pump. F. A. Stanley *Il diags Am Mach* 53:61-2 J1 8 '20
- Machining a grooved and tapered part. E. P. Sacrey. *Il diags Mach* 27:880-1 My '21
- Machining airplane engine parts. *Il diags plans Mach* 27:233-8 N '20
- Machining aluminum automobile parts. *Il diags Mach* 27:115-19 O '20
- Machining aluminum pistons. P. T. Lennon *diags Am Mach* 52:1175-6 Je 3 '20
- Machining an eight-cylinder crankcase. J. E. Schlipper. *Il Automotive Ind* 45:220-5 Ag 4 '21
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- Machining auto starter frames. R. Mawson. *Il Am Mach* 55:296-8 Ag 25 '21
- Machining automobile engine pistons. R. E. Flanders *Il diags Mach* 26:710-13 Ap '20
- Machining automobile steering knuckles. *Il diags plans Mach* 26:911-15 Je '20
- Machining automobile transmission gears. R. E. Flanders *Il diags Mach* 26:644-7 Mr '20
- Machining car-wheel borer frames. *Il diags Mach* 27:456-7 Ja '21
- Machining clutch parts on turret lathes; tooling equipment used in the plant of the Borg & Beck co, Chicago, Ill *Il diags Mach* 27:156-9 O '20
- Machining Columbia rear-axle housing. F. H. Colvin. *Il Am Mach* 54:27-9 Ja 6 '21
- Machining cone pulleys. R. E. Flanders. *Il diags Mach* 26:1140-1 Ag '20
- Machining cream separator bowls; De Laval separator co, Poughkeepsie, N.Y. F. R. Daniels. *Il diags Mach* 27:333-7, 444-8 D '20-Ja '21
- Machining cylinders for the Fordson tractor. F. H. Colvin *Il diags Am Mach* 52:269-73 F 5 '20
- Machining electric fan spindles. *Il diags Electrician* 87:492-3 O 14 '21
- Machining Essex crankshafts; methods used by the Hudson motor car co *Il diags Mach* 27:449-51 Ja '21
- Machining Hudson super-six pistons. *Il Mach* 28:225-7 N '21
- Machining impeller pump cylinders. *Il diags plan Mach* 26:330-1 D '19
- Machining large water turbines. F. H. Colvin. *Il Am Mach* 53:1234-6 D 30 '20
- Machining methods in Pierce-Arrow shop. F. H. Colvin *Il diags Am Mach* 53:221-5 J1 29 '20
- Machining molds and cores for auto tires. W. O. Francis. *Il diags Am Mach* 52:1099-1102 My 20 '20
- Machining monel-metal castings. A. J. Hanlon *Il diags Am Mach* 53:341-3 Ag 19 '20
- Machining motor pistons. C. H. Dengler. *diags Mach* 27:878-9 My '21
- Machining motor pistons. A. A. Dowd. *diags Mach* 27:1151 Ag '21
- Machining motor truck wheels. *Il diags Mach* 27:349-55 D '20
- Machining Nash flywheels. E. K. Hammond. *Il diags Mach* 27:954-9 Je '21
- Machining operations on die stocks. J. V. Hunter. *Il Am Mach* 53:331-2 Ja 29 '20

Machine shop practice—Continued

Machining operations on locomotive connecting rods. F. A. Stanley. *il Am Mach* 54:811-13 My 12 '21

Machining operations on Reed pipe dies. J. H. Vincent. *il Am Mach* 52:29-31 Ja 1 '20

Machining operations on the Nash motor. E. K. Hammond. *il diag Mach* 26:1069-72 Jl '20

Machining over 200 cylinder blocks per hour. F. H. Colvin. *il diags Am Mach* 52:563-9 Mr 11 '20

Machining Packard connecting-rods. *il Mach* 26:953-7 Je '20

Machining problems solved in gun making. J. V. Hunter. *il Am Mach* 51:949-52; 52:39-43, 133-7, 613-16, 733-5 N 27 '19, Ja 1, 15, Mr 18, Ap 1 '20

Machining rudders for troopships. A. Fischer. *il Am Mach* 52:610-12 Mr 18 '20

Machining steering arms on Daniels automobiles. *il Mach* 27:714 Mr '21

Machining the connecting rods of two well known motors; Oakland and Studebaker. *il diags Am Mach* 53:829-34 N 4 '20

Machining the Ford transmission drum. *il Am Mach* 54:173-4 F 3 '21

Machining the gas engine for a lighting unit. J. V. Hunter. *il Am Mach* 52:766-7, 995-8 Ap 8, My 6 '20

Machining the gear-shaper saddle. D. T. Hamilton. *il Am Mach* 53:293-7 Ag 12 '20

Machining the Liberty crankcases. H. A. Carhart. *il diag Am Mach* 52:1247-52, 1361-5 Je 10, 24 '20

Machining the Peerless lower crankcase and front cover. F. H. Colvin. *il diags Am Mach* 55:436-8 S 15 '21

Machining the Peerless upper crankcase. F. H. Colvin. *il diags Am Mach* 55:376-80 S 8 '21

Machining the Rolls-Royce cylinders. F. H. Colvin. *il Am Mach* 54:785-6 My 5 '21

Machining the Wrigley automobile transmission gear. I. W. Chubb. *il diags Am Mach* 55:176-8, 252-5, 333-8 Ag 4, 18, S 1 '21

Machining tractor camshafts. R. E. Flanders. *il diags plan Mach* 26:825-7 My '20

Machining two Peerless rear-axle parts. F. H. Colvin. *il Am Mach* 55:510-12 S 29 '21

Making a gear shifter fork. F. H. Colvin. *il Am Mach* 55:328 Ag 25 '21

Making a sheet-steel universal joint cover. W. A. Flumerfelt. *diags Am Mach* 54:171-3 F 3 '21

Making an accurate Acme thread nut. B. M. W. Hanson. *il Mach* 28:197-9 N '21

Making connecting-rods for Franklin cars. F. D. Jones. *il diag Mach* 27:470-4 Ja '21

Making Curvex milling cutters. *il diags Mach* 27:250-8 N '20

Making eccentric-headed studs. F. S. Ward. *diags Am Mach* 53:1083-4 D 9 '20

Making master grinding cams. J. McIntosh. *diags Am Mach* 54:125-6 Ja 27 '21

Making some ball-ended plugs. E. A. Dixie. *il diags plan Am Mach* 53:453-5 S 2 '20

Making the Coventry self-opening diehead. *il Am Mach* 55:678-81 O 27 '21

Making the Peerless ring gear, spider and gears. F. H. Colvin. *il Am Mach* 55:465-7 S 22 '21

Making Thor quick-action air line couplers. J. V. Hunter. *il Am Mach* 53:931-3 N 18 '20

Making 21,000 pistons a day. F. H. Colvin. *il diags Am Mach* 52:819-28 Ap 15 '20

Making Whitworth thread gages. C. E. Allen. *il diags Mach* 26:1157-60 Ag '20

Manganese steel and methods of machining it. S. A. Hand. *il Am Mach* 54:43-5 Ja 13 '21

Manufacture of accurate camshafts. E. K. Hammond. *il diags Mach* 28:175-80 N '21

Manufacture of ball bearings. *il diags Engineering* 111:416-18, 445-9, pl 18-21 Ap 8-15 '21

Manufacture of flue tube superheaters. *il Engineer* 131:438-40 Ap 23 '21

Manufacture of household appliances. J. V. Hunter. *il Am Mach* 52:1300-3, 1349-52 Je 17-24 '20

Manufacture of sewing machine needles. C. Ruiz. *il diags plan Mach* 26:834-6 My '20

Manufacture of single-cylinder gasoline engines. J. V. Hunter. *il Am Mach* 52:1079-83, 1237-9 My 20, Je 10 '20

Manufacture of socket wrenches. P. Baldua. *diags Mach* 27:868-9 My '21

Manufacturing applications of Ingersoll drum-type milling machines. J. V. Hunter. *il diags Am Mach* 55:23-7 Jl 7 '21

Manufacturing automobile pistons in a jobbing shop. R. Mawson. *il Am Mach* 55:493-6 S 29 '21

Manufacturing ball casters. F. R. Daniels. *il diag Mach* 26:1062-6 Jl '20

Manufacturing Clark rear axles. E. K. Hammond. *il diags Mach* 26:801-6, 936-40 My-Je '20

Manufacturing Krasco spring motors. *il diags Mach* 26:863-8 My '20

Manufacturing methods on a light car. *il Automobile Eng* 11:206-11 Je '21

Manufacturing oil-well tools in Texas. F. H. Colvin. *il diags Am Mach* 54:932-8 Je 2 '21

Manufacturing three-area contact ball bearings. F. R. Daniels. *il diags Mach* 26:1107-11; 27:34-6 Ag-S '20

Manufacturing with special machines vs. standard equipment. G. F. Jenks and M. H. Christopherson. *diag Am Mach* 55:37-9, 97-101, 228-33, 349-53, 475-9 Jl 7, 21, Ag 11, S 1, 22 '21

Mephisto bits; how they are made. S. A. Hand. *il Am Mach* 52:11-14 Ja 1 '20

Methods in a tractor engine plant; Avery co., Milwaukee, Wis. *il diags Mach* 27:424-7, 516-18, 641-4 Ja-Mr '21

Methods in shipbuilding plant. F. H. Colvin. *il Am Mach* 54:672-6 Ap 21 '21

Methods of making the Winton, Franklin, White, Packard pistons. F. H. Colvin. *il diags Am Mach* 52:927-34 Ap 29 '20

Methods used by transmission specialists. F. H. Colvin. *il Am Mach* 54:537-40 Mr 31 '21

Methods used in locomotive driving wheel, axle and crankpin work. F. A. Stanley. *il diag Am Mach* 54:1070-2 Je 23 '21

Milling machines designed to fulfill unusual requirements in quantity production. *il diags Mach* 26:856-62 My '20

Milling operations on Herbert lathes in English shops. I. W. Chubb. *il Am Mach* 53:945-50 N 18 '20

Modern methods facilitate ax manufacturing. F. B. Jacobs. *il diags Iron Tr* 69:747-52 S 23 '21

Multiple drilling in automobile plants. *il Mach* 26:958-63 Je '20

Obtaining production on the vertical turret lathe. *il diags Mach* 27:534-40 F '21

Operations in building tractors. F. H. Colvin. *il Am Mach* 53:877-83 N 11 '20

Peculiar lathe jobs. J. T. Slocumb. *diags Am Mach* 54:563-4 Mr 31 '21

Piston ring work in a railroad shop. F. A. Stanley. *il diags Am Mach* 53:426-7 Ag 26 '20

Piston work in motor repairing. *diags Am Mach* 55:473-4 S 22 '21

Pistons for the Fordson tractor. F. H. Colvin. *il diags Am Mach* 52:675-9 Mr 25 '20

Precision machine work in the production of aluminum pistons. J. E. Schipper. *il Automotive Ind* 45:722-5 O 13 '21

Press tools for a toothed cam. F. A. Stanley. *il diags plan Am Mach* 53:1075-7 D 25 '19

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Manufactures—Continued

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See also Mine ties

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- Construction conference urges price deflation. Eng N 86:447 Mr 10 '21
- Growth of the Federation of construction industries in the United States. Can Eng 38: 228-30 F 19 '20

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- 28th annual convention, White Sulphur Springs, W. Va., June 20-23. Oil Paint & Drug Rep 99:23+ sec 1 Je 27 '21

National fire protective association

- 25th annual conference, San Francisco, June 14-16. Safety Eng 41:264-6+; 42:2-9 Je-Jl '21

National foreign trade council

- Extracts from National foreign trade convention addresses. Am Mach 52:1258-61 Je 10 '20

National foreign trade council. Marine Eng

- 26:123 F '21
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- 23d annual convention, New York, Nov. 19-20. Iron Age 104:1070-3 N 27 '19

24th annual convention, New York city, Nov 17-18. Am Mach 53:1019-20 N 25 '20; Iron Age 106:1389-91 N 25 '20; Iron Tr R 67:1464-5 N 25 '20**National foundry company, Erie, Pennsylvania**

- Making government castings at Erie. P. Dwyer. Il Foundry 47:895-901 D 15 '19

National good roads show

- 11th show, Louisville, Ky., Feb. 9-13. Il Good Roads n s 19:91-4+ F 18 '20
- 12th show, Chicago, Feb. 9-12. Il Good Roads n s 21:123-6+ Mr 2 '21

National guard

- National guard aero squadrons. Aviation 11: 51 Ji 11 '21

See also Recruiting and enlistment

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9th annual convention of the metal branch, Cleveland, Ohio, May 21-22. Metal Work 93:687-9 My 28 '20, Iron Tr R 66:1556-7 My 27 '20**10th annual meeting of the metal branch, Cleveland, June 3-4. Iron Age 107:1545-6 Je 9 '21; Iron Tr R 68:1601 Je 9 '21; Sheet Metal Worker 12:335-6 Je 10 '21****National hardwood lumber association**

- 23d annual convention, Chicago. Am Lumberman 2353:68-71 Je 19 '20

National implement and vehicle association

- N.I.V.A. discusses difficulties of farm implement industry at convention in Chicago. D: Beecroft Automotive Ind 45:751-4+ O 20 '21

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- 4th semi-annual joint conference of the Advisory committee and the Executive committee, New York city, Oct. 20-22. Am Ind 20:31-2 D '19

Weaving industrial organizations. E. Constantine. Il Am Ind 21:19-21 D '20**National industrial safety code**

- Structural service department; national industrial safety codes. Am Inst Arch J 8:47-8 Ja '20

- National industrial traffic league**
Annual meeting, New York city, Nov. 18-19. Ry Age 69:339-40 N 26 '20
- National industrial traffic league on railroad legislation.** Ry Age 68:379-80 Ja 30 '20
- Special meeting, Louisville, Ky., Sept. 30-Oct. 1.** Ry Age 69 650 O 15 '20
- National industrial tribunal.** See Industrial conference, Washington, 1919 (2d)
- National knitted underwear association** (formerly National association of the sweater and knitted textile industry)
3d semi-annual convention, Philadelphia, March 24-25. Textile World 59:2347+ Ap 2 '21
- 4th semi-annual meeting, New York, Sept. 16-17. Textile World 60:1781 S 24 '21
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- 19th annual fall convention, New York, Nov. 11-12. Am Mach 51:111-12 N 18 '20, Iron Age 106:1321-4, 1369-71 N 18 '20, Iron Tr R 67:1398-9 N 18 '20, Mach 27 327 D '20
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- Semi-annual meeting, Cleveland, Feb. 24-26. Iron Tr R 68:642-3 Mr 3 '21; Iron Age 107: 563-5 Mr 3 '21
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- National marine exposition**
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Drive against "big biz" J. E. Boyle. II Nation's Business 8:24-6 Ap '20
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- National park amendments to water-power bill introduced in Congress. Elec W 76: 1181 D 11 '20
- See also Glacier national park; Mesa Verde national park, Yellowstone national park; Yosemite national park
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19th annual convention, Atlantic City, Sept. 21-23 V B Guthrie Nat Pet N 13:19-20+ S 28 '21
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New era of co-operation; annual meeting, Kansas City, March 22-24 Oil Paint & Drug Rep 99:9+ sec 2 Ap 4 '21
- Official program, Congress hotel, Chicago, March 9-12, 1920 Nat Pet N 12 51-3 Mr 3 '20
- National petroleum marketers association**
Two jobbers' associations reach agreement to merge forces Nat Pet N 13 25 D 21 '21
- National physical laboratory (Great Britain)**
Annual report for 1920 Elec R (Lond) 89:66-7, 80-2 Jl 8-15 '21
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- Designs and plans**
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- British standard ship of 3,150 tons d.w. F. C. Coleman. *Il diags* *plans* *Int Marine Eng* 25:275-6 *Ap* '20
- Cable steamer All American. *plans* *Marine Eng* 26:307-8 *Mr* '21
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- Motor ship Asia for the East Asiatic company. *Il diags* *plans* *Engineering* 109:12-14, *pl* 1 *Ja* 2 '20
- Motorship building in Europe. *Il diags* *plans* *Int Marine Eng* 25:664-6 *Ag* '20
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- Motorship Tosca. *Il diags* *plans* *Marine Eng* 26:280-3 *Ap* '21
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- New American passenger steamers. *Il diags* *plans* *Int Marine Eng* 25:260-4 *Ap* '20
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- New ferryboats for Boston harbor *Il diags* *plans* *Marine Eng* 26:826-30 *N* '21
- New 20,000-ton tankers H. F. Norton *diags* *plans* (supp) *Marine Eng* 25:970-4 *D* '20
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- Oil-carrying steamer San Felix for the Eagle oil transport line *Il* *Engineering* 112:441-2, 444, *pl* 25 *S* 23 '21
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- Le paquebot Paris de la compagnie générale transatlantique. C. Dantin. *Il plans* *Génie Civil* 79:78-80, *pl* 1 *Ja* 23 '21
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- Passenger steamship Mount Clay. J. A. Kelley. *Il diags* *plans* *Marine Eng* 26:22-3, 32 *Ja* '21
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Les enseignements de la guerre maritime et particulièrement de la bataille du Jutland (31 mai 1916). A Poidloue *Génie Civil* 78 415-17 My 14 '21
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See also Gunnery; Marine engineering; Navies, Navigation, Navy yards and naval stations; Sea power, Seamen; Shipbuilding; Signals and signaling

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Marine room of the Peabody museum of Salem. J. Robinson 183p *Peabody museum, Salem* '21

Terminology

Naval dictionary, Italian-English and English-Italian W. T. Davis 35p *Pitman* '21

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See also Jutland, Battle of

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Views

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See also Aerial routes—New York (state); Electric plants (central stations)—New York (state); Hydroelectric plants—New York; Iron mines and mining—New York; Roads—New York; Water power—New York

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Items a paving contractor has to cover in his bid M G Hall Eng & Contr 53:15 Ja 7 '20

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Consult the Agricultural Index for additional material

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See Fungi

Plants—Continued

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See also Plastometer

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Consult the Agricultural Index for additional material

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Costs

- Analysis of construction costs and methods. H. A. Call *il* Plumber 95:199-201, 269-71, 334-5+; 96:14-15 Ap 8, My 6, Je 3, Jl 1 '21; (cont. in) Sanitary & Heat Eng 96:75-6, 130-41+, 202-3, 260-1 Jl 29, Ag 26, S 23, O 21 '21 (to be cont)

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Patents

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Repair

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Specifications

- How to write a plumbing specification. Dom Eng 94:643-4 Mr 26 '21
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Standards

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Plumbing—Continued

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Testing

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Traps

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- Five years' service of a sink drain without a sewer. diag Metal Work 93 331-2 Mr 12 '20
- Lytton thermo siphon trap. diag Plumber 95:149 Mr 11 '21
- Preliminary report on the proposed uniform plumbing code for Massachusetts. Dom Eng 92:231-2+, 389-90+, 496-7 J1 31, Ag 21, S 4 '20
- Something that will interest plumbing inspectors, does the vent pipe arrangement accomplish any desirable purpose or protect trap seal. diag Plumber 95 143 Mr 11 '21
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Ventilation

- English plumbing, the vent pipe and what it accomplishes. J. Y. Dunlop diags Sanitary & Heat Eng 96 169-70 S 9 '21
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- More light on back venting. A. R. McGonegal diag plan Metal Work 93 716-18 Je 4 '20
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See also Plumbing—Traps

Plumbing associations

- Putting on a convention with the public; how the Muncie, Ind., association capitalized community spirit. Dom Eng 95:52-6 Ap 9 '21

Plumbing contracts

- Can I secure payment for submitting lowest bid, when higher man secures contract? Dom Eng 91:243-4 My 8 '20
- How much profit may a plumber charge over cost of work, where no contract price is agreed upon? Dom Eng 92:225-6 J1 31 '20
- Importance of signed contracts on all work. W. G. Bergner Sanitary & Heat Eng 96:77 J1 29 '21
- Is an owner liable in damages for increased cost of labor and materials when contractor is delayed in work by owner's fault? Dom Eng 94:17-18 Ja 1 '21

See also Building contracts

Plumbing exhibits, Travelling

- Farm water-supply truck covers New York state. 11 Dom Eng 94:13-14 Ja 1 '21

Special train educates farmer regarding modern home equipment. C. Rosemont. Dom Eng 90:574-6, 626-8 Mr 20-27 '20

Plumbing fixtures

- Essential features of sanitary plumbing fixtures. 11 diags Am Arch 116:535-41 O 23 '19
- Modern plumbing fixtures. 11 Bldg Age 43:45 Je '21
- Preliminary report on the proposed uniform plumbing code for Massachusetts. Dom Eng 92:390+ Ag 21 '20
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- See also Bathrooms, Sinks; Water closets

Testing

- Laboratory for testing plumbing apparatus. 11 Dom Eng 94:81 Ja 8 '21

Plumbing inspection

- Co-operative work of Ohio plumbing inspectors Metal Work 93:449-50+ Ap 9 '20
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Plumbing laws and regulations

- Administration of public health in Ohio. A. E. Smith. Metal Work 94:69 J1 16 '20
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- Need of uniformity in plumbing regulations. G. C. Whipple. N E Water Works Assn J 35:117-22 Je '21
- New plumbing ordinance for the township of North Bergen, N.J. Dom Eng 94:235-6+, 347-9 Ja 29, F 12 '21
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- State law requiring plumbers to be licensed is a valid exercise of the power of the legislature. Dom Eng 96:568-9 S 24 '21
- Why state-wide plumbing regulations are essential. A. E. Smith. Dom Eng 93:305-6 N 13 '20
- Wooden ball used to show fall in plumbing system. C. O. Langston. diag Dom Eng 95:355 My 21 '21
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- Big room for you to get a profit. 11 Plumber 94:527-8+ D 3 '20
- Carelessness and waste time reduce profits. H. Parker. 11 diags Dom Eng 91:60-1 Ap 10 '20
- Clean-up week in Madison. W. K. Andrews. Dom Eng 91:62-3 Ap 10 '20

Plumbing shops—Continued

Doctrine of the clean shop. J. C. Greenberg. Dom Eng 94:148 Ja 15 '21
Follow Moore's formula. Il plan Metal Work 93:727-9 Je 4 '20
Force and foresight trebles large plumbing and heating business in short time. G Richards. Il diag Dom Eng 93:152-4 O 23 '20
Good work brings good business Il plan Plumber 95:95-6 F 25 '21
Ground floor shops promote efficiency. G. Haig. Il plan Dom Eng 91:53-4 Ap 10 '20
I think good window display pays. D. H. Kelly. Il Plumber 94:557-8 D 17 '20
It pays to be on Main street. M. E. Crain. Il Dom Eng 92:482-4 S 4 '20
Make your Christmas window an asset. Il Dom Eng 93:560 D 18 '20
Make your place of business a landmark Il plan Dom Eng 90:376-8 F 21 '20
Many excellent features in new jobbing house; plant of National plumbing & heating supply co., Chicago. Il plan Dom Eng 94:596-9 Mr 19 '21
Modern showroom develops profitable business. C. Rosemont Il Dom Eng 91:282-4 My 15 '20
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Railroad master blacksmiths' association. International. See International railroad master blacksmiths' association

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Railroad passes. See Railroads—Passes

Railroad rates. See Railroads—Rates

Railroad regulation. See Railroads and state

Railroad shops. See Electric railroads—Shops; Locomotive shops, Railroads—Shops

Railroad signals. See Railroads—Signals

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Funds for equipment and other facilities. Ry Age 69:31-2 Jl 2 '20

Handling of purchases and supplies. E. J. Roth. Il Ry R 66 644-8 Ap 17 '20

Hearing on loan fund for equipment. Ry Age 68 1561-2 Je 4 '20

Help the railways get materials. Ry Age 68 1229-30 Ap 23 '20

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Specifications and tests for materials. Ry Age 71 355-9 Ag 20 '21, Same Ry Mech Eng 95:565-9 S '21

See also Air brakes; Brakes, Car couplings; Cars, Freight cars, Locomotives; Office appliances; Railroad supplies industry, Railroad ties, Railroads—Electric equipment, Railroads—Electrification; Railroads—Fuel, Railroads—Ice supply; Railroads—Maintenance and repair; Railroads—Management, Railroads—Purchasing; Railroads—Rolling stock; Railroads—Safety devices and measures; Railroads—Scrap material; Railroads—Shops; Railroads—Signals, Railroad standard; Railroads—Stores systems; Equipment—Tools, Railroads—Water supply; Rails; Track scales; Turn tables

Exhibitions

See Railroad supplies industries—Exhibitions

Equipment trust

High surtaxes kill sale of equipment trusts. E. Meyer, jr. Ry Age 71:845 O 29 '21

New plan for financing standard equipment. Ry Age 68 306-8 Ja 23 '20

See also Electric railroads—Equipment trust

Express service

See Express service

Railroads—Continued

Fares

- Argument on state vs. interstate passenger fares. Ry Age 69:668 O 15 '20
 Carriers suggest rates to meet the wage increases. Ry R 67:160-1 JI 31 '20; Same. Ry Age 69:183-4 JI 30 '20
 Division of interline passenger fares, basis proposed by the R.A.O.A. passenger committee. L. C. Esschen. map Ry Age 71:671-3 O 8 '21
 I.C.C. orders increase in intrastate passenger fares. Ry Age 69:973-5 D 3 '20
 New passenger rates in United States and Europe. Ry Age 69:493-4 S 17 '20
 Passenger fares increased in Great Britain. Ry Age 69:863-4 Ag 27 '20
 Pullman fare hearing. Ry Age 70:1463-4 Je 24 '21

See also Baggage; Electric railroads—Fares; Railroads—Passes, Street railroads—Fares

Finance

- Additional loans recommended for equipment and facilities. Ry Age 69:289-90 Ag 13 '20
 Additional loans to carriers. Ry Age 69:248 Ag 6 '20
 Administration of loan fund complicated. Ry Age 69:528 S 24 '20
 Administration's railroad funding bill passed by House Comm & Fin Chr 113 910-12 Ag 27 '21
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 Col. Colston's rail financing plan. Comm & Fin Chr 113:36 JI 2 '21
 Commission announces plans for use of \$125,000,000 for equipment. Ry Age 68 1674-6 Je 11 '20
 Commission approves loans for equipment and other improvements. Ry Age 69 100 JI 16 '20
 Comparison of 1918 and 1919 earnings with standard return; tabulation. Ry R 66 607 Ap 10 '20
 Corporate executives' views on railway problems. Ry Age 68 12-13 Ja 2 '20
 Deficiency appropriation passed. Ry R 66: 693-5 Ap 24 '20
 Distribution of the railway dollar. charts Ry R 66:56-7 Ja 10 '20
 Division of surplus earnings. Ry Age 68 221-2 Ja 16 '20
 Dual control of expenses and revenue violates business principles. S Anderson. Ry R 69: 449 O 1 '21
 Earnings of individual passenger trains; method for determining whether selected trains pay out of pocket or other costs. T. W. Mathews. chart Ry Age 70:981-3 Ap 22 '21
 Entire rate advance goes to labor, none to capital. S. Thompson. Ry R 67:291-2 Ag 21 '20
 Executives make recommendations for use of loan fund. Ry Age 68:1475 My 21 '20

- Executives urge assurance to new investors. Ry Age 68:185-91 Ja 9 '20
 Expenditures of the railways for labor and material. Ry Age 71:819-202 JI 80 '21; Same abr. Eng & Contr 56:280-1 S 21 '21
 February returns show large deficit. Ry Age 68:1203 Ap 16 '20
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 Financial position of the English railways. W. M. Acworth. Ry Age 69 101-5 D 17 '20
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 Financial situation of the railroads and its effect on improvement policies. J. D. Cuyler. Eng N 86 7-9 Ja 6 '21
 Funds for equipment and other facilities. Ry Age 69 31-2, 57-9 JI 2-9 '20
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 Government guarantee to the railways. Ry Age 71 602-3 O 1 '21
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 Hearing. May 29, on loan applications. Ry R 66 890-2 My 29 '20; Same abr. Ry Age 68 1576 My 28 '20
 Hearing on Burlington and Lackawanna financing. Ry Age 70:417-19 F 18 '21
 Hearing on loan fund for equipment. Ry Age 68 1561-2 Je 4 '20
 Hearing on proposed capitalization of Burlington surplus. Ry Age 69 945 N 26 '20
 How operating costs absorbed railway profits. Comm & Fin Chr 113 595-6 Ag 6 '21
 Increased rate award brings 66 per cent relief to the railways. S Thompson. Ry R 67: 238-9 Ag 14 '20
 Increased rates authorized by I.C.C. Ry Age 69 223-34 Ag 6 '20, Same abr. Ry R 67 187-97 Ag 7 '20, Same Comm & Fin Chr 111 549-56 Ag 7 '20
 I.C.C. authorizes Lackawanna stock dividend. Ry Age 70 955-6 Ap 22 '21
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 Investment and railroad intelligence. See weekly numbers of the Commercial & financial chronicle
 Is \$5,000,000 sufficient revenue for the railways in 1920? Ry R 66 175-6 Ja 31 '20
 Is the railroad problem really being solved? S. O. Dunn. Ry Age 70 275-9 Ja 28 '21
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 Law enough for the railroads. A. B. Cummings. Nation's Business 9 11-12 Ap '21; Same. Ry Age 70 785-6 Mr 25 '21
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 Loans from revolving fund. Ry Age 69 916 N 26 '20
 Maintenance allowance during emergency period. Ry Age 69 397-401 S 3 '20
 Mr Warfield's plan; testimony before senate committee. Ry Age 70:1448-50 Je 24 '21; Comm & Fin Chr 112:2711-12 Je 25 '21
 National railway service corporation organized. Ry R 67 212-14 Ag 7 '20, Same. Ry Age 69 211-2 Ag 6 '20
 National railway service organization suggested in proposed railroad plan. S. D. Warfield. Ry R 67 181-181 Mr 26 '21; Excerpts. Ry Age 70 793-4 Mr 25 '21; Excerpts. Comm & Fin Chr 112:1243-4 Mr 26 '21
 Need for additional railroad equipment. Ry Age 68:1409-11 My 14 '20
 Net operating income of railroads, chart. Ry R 66:34-5 Ja 3 '20

Railroads—Finance—Continued

Nine months' operation shows 90 per cent operating ratio. Ry R 65:843-4 D 6 '19
No funds to meet wage increases. S. Thompson. Ry R 67:26-7 J1 3 '20

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Progress of railway liquidation. J. C. Davis. Ry R 69:141-3 J1 30 '21; Same. Comm & Fin Chr 113:488-9 J1 30 '21

Proposed Hill line financing plan disapproved. Ry Age 70:499-504 Mr 4 '21

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Rail loan in doubt, buying curtailed. Iron Tr R 66:1116-17 My 13 '20

Railroad administration asks \$420,000,000 additional appropriation. Ry Age 68:1138-9 Ap 9 '20

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Railroads complete rate advance testimony. Ry Age 68:1587-72 Je 4 '20

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Railroads file application for rate advance. Ry Age 68:1337-43 My 7 '20

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Railroads—Finance—Continued

Use of the \$300,000,000 revolving fund. Ry Age 70:95-100 Ja 7 '21
 Views on railroad funding bill. Comm & Fin Chr 113:696-7 Ag 13 '21
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 What is the trouble with the railroads? C: F: Carter. Il Sci Am 124:484+ Je 18 '21
 Where the money is going. Ry Age 69:1050-1 D 17 '20

See also Electric railroads—Finance; Railroads—Accounting; Railroads—Coal stock ownership, Railroads—Cost of construction, Railroads—Cost of operation; Railroads—Costs; Railroads—Equipment trust, Railroads—Fares; Railroads—Management, Railroads—Rates, Railroads—Securities, Railroads—Valuation, also names of railroads, e.g. Norfolk & Western railway; also National railway service corporation

Fire protection

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See also Railway fire protection association

Forms, blanks, etc.

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Freight

August breaks freight traffic record. Ry Age 69:843-4 N 12 '20

Car loading decreases. Ry Age 69:931-2 N 26 '20

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Diminished traffic not result of increased rates. E: Chambers. Ry Age 70:1279-81 Je 3 '21

Enormous increase in loss and damage of freight. Ry Age 69:731 O 29 '20

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Freight car loading. See weekly numbers of Railway age

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Report of committee on loading rules. il diag. Ry Age 71:366-8 Ag 20 '21, Same. Ry Mech Eng 95:576-8 S '21

Road transport by railways in England. Eng N 87:309 Ac 25 '21

Rules for prompt payment of freight charges. Ry Age 68:1687-8 Je 11 '20

Simplified system of freight accounting. J: J. Murray. il Ry R 66:562-7 Ap 3 '20

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See also Bills of lading, Demurrage, Electric railroads—Freight, Freight car service; Freight cars, Freight handling; Priorities, Industrial, Railroads—Claims, Railroads—Rates; Railroads—Terminals; Railroads—Theft losses, Railroads—Tracing service, Railroads—Train load, Railroads—Yards; Refrigerator cars, Tank cars, Terminals, Track scales

Freight cars

See Freight cars

Fuel

Central coal committee report. Ry R 66:142-3 Ja 24 '20, Same. Ry Age 68:369-70 Ja 30 '20

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See also Coaling stations; Locomotives—Fuel

Gages

Australia's railway gages. Sci Am 123:251 S 11 '20

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See also Railroads, Narrow gage

Railroads—Continued**Government ownership***See* Railroads and state**Grades**

Analysis of railroad grading develops trend curves. Ry Age 70:195-8 Ja 14 '21; Abstract. Eng & Contr 55:396 Ap 20 '21

Economy of low grades for heavy railway traffic W. Michel. Eng N 84:244-5 Ja 29 '20; Discussion. 84:736 Ap 8 '20

Expressing railway grading costs by trend curves L. A. von Rosenberg. map Ry Age 71:623-5 O 1 '21; Same cond Eng & Contr 56:455-6 N 16 '21

See also Grade crossings, Mountain railroads**Ice supply**

Report on purchasing, storage and distribution of ice Ry Age 68:1865-8 Jo 16 '20; Ry R 66:1088-9 Je 26 '20

Inspection*See* Car inspection, Locomotives—Inspection**Inspection service**

How the New York Central inspects perishables F. S. Welsh. Ry Age 71:117-18 Jl 16 '21

Law*See* Railroad law**Lighting**

Electrical developments in railroad service. J. E. Gardner. Ry R 68:528-30 Ap 2 '21

See also Car lighting, Railroads—Stations—Lighting, Railroad—Yards—Lighting, Roundhouses—Lighting**Loading rules***See* Railroads—Freight**Location**

Costly railroad relocation, shifting 15 miles of double-track railroad around Huffman dam, Miami conservancy district. Pub Works 50:273-5 Ap 2 '21

Economics of location as affected by introduction of electric locomotives Elec Ry J 57:633-4 Ap 2 '21

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Highest elevations on principal western railroads Ry Age 69:896 N 19 '20

Line improvement of the New York Central at Tonawanda, N.Y. B. S. Voorhees. Jl plans Ry R 66:455-9 Mr 20 '20

Miami conservancy relocates four railways. Jl diag map Ry Age 67:1001-5 N 21 '19

New York Central relocates line in Tonawanda, N.Y. Jl diag map Ry Age 68:317-50 Ja 30 '20

Railroad and highway location. F. Lavis. Eng N 84:786 Ap 15 '20

Railroad line change in the Tehachapi Pass. map Eng N 87:569 O 6 '21

Railway relocation to eliminate sliding hillside. Jl map Eng N 87:18-20 Jl 7 '21

See also Railroad surveying, Railroads—Construction, Railroads—Curves and turnouts**Maintenance and repair**

Can railroads compete with contract shops? J. W. Roberts. Ry Age 71:667-9 O 8 '21

Cost of contract vs. railway shop repairs J. W. Roberts. Jl Ry Age 71:729-31 O 15 '21

Increased efficiency in maintenance of way work A. M. Part. Ry Age 68:257-8 Ja 16 '20

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Methods for increasing efficiency of maintenance of way employees. Eng & Contr 55:591 Je 15 '21

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Outside repairs to railway equipment justified. T. D. Cuyler. Ry Age 70:291-3 Ja 28 '21; Same Ry R 68:159-61 Ja 29 '21

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Real versus actual railway retrenchments. Ry Age 69:867-8 N 19 '20

Repairs in outside shops. Ry R 68:216-17 F 5 '21

Repairs in outside shops defended. Ry Age 70:984 Ap 22 '21

Repairs in outside shops to be investigated; I.C.C. issues formal order. Ry Age 70:184-6 Ja 14 '21

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Should the railroads repair their equipment? Ry Age 71:345-6 Ag 20 '21

What determines adequacy of railway maintenance. J. P. Hallinan. Ry Age 70:471-2 F 25 '21

Why the Frisco placed outside contracts for repairs of locomotives and cars. J. M. Kurn. Ry R 68:128-30 Ja 22 '21

See also Cars—Repair, Freight cars—Repair, Locomotive shops, Locomotives—Repair, Railroad ties, Railroads—Equipment and supplies, Railroads—Management, Railroad P. & L. Plans; Railroads—Shops, Railroad Freight Pools, Rails, Used**Maintenance of way***See* Railroads—Track**Management**

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Application of management to transportation problems J. A. Latham. W Soc E J 25:565-71 N '20; Same Ry R 67:578-80 O 16 '20; Excerpts Eng & Contr 54:590-1 D 25 '20; Excerpts. Ry Age 69:1170-1 D 31 '20; Discussion. W Soc E J 25:572-3 N '20

Duplicating bureau, Southern Pacific co. E. W. Irwin. Jl Ry R 67:1-3 Jl 3 '20

Rate of railroad administration innovations. Ry Age 70:81-4 Ja 7 '21

Ford has not wrought miracle with D. T. & I Ry Age 71:405-8 Ag 27 '21

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How railroads are making economies R. H. Ashton. Ry R 68:783-5 My 21 '21

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If I ran the railroads. H. Ford. Nation's Business 9:7-9 N '21, Excerpts. Eng N 87:698 O 27 '21. Ry Age 71:939-40 N 12 '21. Ry Mech Eng 95:689-70 N '21; Discussion. Ry Age 71:1023-4 N 26 '21

Intensive use of railway facilities J. Krutt-Schnitt. Ry R 67:898 D 11 '20

Mechanical aids in preparing the railroad payroll Ry R 66:423-4 Mr 13 '20

Necessity of maximum use of locomotives and freight cars. Ry R 67:465-7 S 25 '20

New Pennsylvania regional organization. Ry Age 68:965-8 Mr 19 '20

Observations on a transcontinental journey. W. S. Wollner. Ry Age 69:1161-2 D 31 '20

Organization of fuel economy. L. G. Plant. Jl plans Ry R 68:801-9 My 28 '21; Abstract. with discussion. Ry Age 70:1272-5 Je 8 '21

Payment of wages by divisional paymasters. T. W. Mathews. Ry Age 69:1061-4 D 17 '20

Pennsylvania R. R. system reorganized into four regions Ry R 66:303-4 F 21 '20

Railroads—Management—Continued

- Pennsylvania system organized into four regions. map Ry Age 68:547-8 F 20 '20
 Pres. Rea's railroad program. Comm & Fin Chr 113:1845-6 O 15 '21
 Pressing problems of management. Ry Age 71:558-9 S 24 '21
 Private management has not produced railroad inefficiency. D. Willard. Comm & Fin Chr 112:2147-9 My 21 '21
 Problem of the day—how to please the public. J. M. Hustis. Ry Age 68:629-30 F 27 '20
 Radical changes in Erie railroad organization. map Ry Age 68:540-1 F 20 '20
 Railroad organizations and new conditions. Ry Age 68:1551-2 Je 4 '20
 Railroads need research directors. G. W. Grupp. Ry R 68:185-7 Ja 29 '21
 Railway operation and maintenance under the divisional plan of organization. A. Price. Ry R 66:1006-8 Je 12 '20
 Railway water service organization. Eng N 84:676 Ap 1 '20
 Railways must work together better. Ry Age 68:1961-2 Je 25 '20
 Remedies for wastes in railway operation. F. J. Lisman. Ry Age 71:59-63 J1 9 '21, Discussion. T. C. Powell. 71:397 Ag 27 '21
 Shipper's view on the evolution of transportation and its effect on steam railways, abstracts. G. C. Conn. Ry R 69:438-42 O 1 '21; Ry Age 71:635-8 O 1 '21
 Some railway operating problems. H. W. Thornton. Engineer 129:560 My 28 '20
 Suggestions as to economies in railroad operation. G. R. Henderson. Ry Age 71:259-60 Ag 6 '21
 Suggestions for a comprehensive service department. J. B. Hutchinson. Ry R 69:106-8 J1 23 '21
 Systematizing the handling of labor conference boards. W. I. Finch. Ry Age 68:774 . Mr 12 '20
 Traffic field changes present unsolved problem. il Ry Age 68:73-6 Ja 2 '20
 Trends in management; what can the manufacturer expect of the railroad situation? F. Zimmermann. Factory 25:1234-6 O 15 '20
 Two great problems before American railroads. W. W. Atterbury. Ry Age 69:563-5 O 1 '20
 Utilizing motive power on the lines of the Delaware & Hudson; effective methods of terminal management permit constant control of locomotives. F. P. Gutelius. Ry R 67:961-7 D 25 '20
 What is wrong with railroad management? F. Roberts. Ry Mech Eng 94:137-40 Mr '20
See also Car inspection; Freight car service; Freight cars—Central ownership; Freight handling; Railroads—Claims; Railroads—Employees; Railroads—Equipment and supplies; Railroads—Finance; Railroads—Maintenance and repair; Railroads—Office management; Railroads—Public relations; Railroads—Purchasing; Railroads—Rates; Railroads—Records; Railroads—Refuse disposal; Railroads—Road masters; Railroads—Rules; Railroads—Safety devices and measures; Railroads—Ticket offices; Railroads—Tracing service; Railroads—Train load; Train dispatching
- Mechanical departments**
 Labor-saving office devices in a railway mechanical department. D. M. Sellards. il diag Ry R 66:946-51 Je 5 '20
 Mechanical department must tackle big program. Ry Age 70:1309-20 Je 10 '21
 Railroad mechanical department activities in 1919. Ry Age 68:759-68 Mr 12 '20; Same. Ry Mech Eng 94:200-4 Ap '20
 Will the mechanical department make good? il Ry Age 71:325-34 Ag 20 '21
- Office management**
 Advantages of machine billing in railroad offices. Ry R 66:11-12 Ja 3 '20

- Division of interline passenger fares; basis proposed by the R.A.O.A. passenger committee. L. C. Esschen. map Ry Age 71:671-3 O 8 '21
 Mechanical devices in railroad freight offices. C. G. Johnson. Ry R 68:855-7; 69:9-13 Je 4, J1 2 '21
 Mechanical devices speed up the work in division offices. C. O. Price. Ry R 68:693-6 My 7 '21
 Office efficiency. C. C. Henkel. Ry Age 69:396 S 3 '20
 Securing increased efficiency in railway offices. il c'arts Ry Age 70:797-9 Mr 25 '21
 Selection and maintenance of office equipment; Pennsylvania's methods. D. T. Jones. Ry Age 70:1215-18 My 27 '21
 Who pays the man for waiting on the bench? G. Gibson. Ry Age 71:461-2 S 3 '21

Officials

- Problems of the supervising officers; duties and responsibilities under private management. S. O. Dunn. Ry Mech Eng 94:689-91 N '20
 Subordinate officials defined. Ry R 67:744-5 N 13 '20; Same. Ry Age 69:831 N 12 '20
See also Railroads—Roadmasters, also Society of railway financial officers

Salaries

- Fancy salaries of railway officers. Ry Age 70:1060-1 My 6 '21; Same. Eng & Contr 55:581 Je 15 '21
 Salaries of railroad officers in 1917. Ry Age 68:1654-5, 1659-62 Je 11 '20
 Salaries of \$20,000 and over paid to railroad officials in 1917. Comm & Fin Chr 110:325-7 Ja 24 '20

Organization

See Railroads—Management

Passenger traffic

- Earnings of individual passenger trains; method for determining whether selected trains pay out of pocket or other costs. T. W. Mathews. chart Ry Age 70:981-3 Ap 22 '21
 Long Island R. R. leads in passenger traffic density. Ry R 67:551 O 9 '20
 Observations on a transcontinental journey. W. S. Wollner. Ry Age 69:1161-2 D 31 '20
 Passenger traffic under increased rates. Ry Age 70:824-5 Ap 1 '21
 24,500 passenger cars needed in next three years. il Ry Age 68:37-40 Ja 2 '20

Passes

- Free transportation on Canadian railways. Ry R 66:115 Ja 17 '20

Public relations

- Citizen's part in railway development: report of the Railway business association's Committee on adequate facilities. Ry Age 69:1067-8 D 17 '20
 Illinois Central's public relations work. Ry Age 71:654, 653-5 O 8 '21
 Problem of the day—how to please the public. J. M. Hustis. Ry Age 68:629-30 F 27 '20
 Public's confidence, how did we get it, and how can we hold it? A. W. Towseley. Ry R 67:624-5 O 23 '20
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 Shippers of freight advertise for the comeback of the railroads. J. G. Condon. Ptr Ink 111:121+ My 20 '20
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Railroads—Public relations—Continued

Work of the Public service division, U.S.R.A., in 1919. M. Thelen. Ry R 66:139-41 Ja 24 '20; Same. Ry Age 68:323-5 Ja 23 '20
See also Railroads and state

Purchasing

Annual report, Division of purchases. Ry Age 68:577-8 F 20 '20; Same. Ry R 66:307-9 F 21 '20
 Controlling purchases and stores in a run-away market. Ry R 68:859-60 Je 4 '21
 Co-ordinating the purchase of coal. E. Ludlow. Ry Age 71:20-1 Jl 2 '21
 Next step toward preventing depressions, stability of railway purchases. Ry Age 70:33-8 Ja 7 '21
 Organization of a strong service of supply. Ry Age 69 917-19, 969-72 N 26-D 3 '20
 Plan to encourage buying by the railroads. Iron Age 107 103-4 Ja 20 '21
 Purchasing agency for short line railroads. L. W. Moffett. Iron Age 107:1693-4 Je 23 '21
 Purchasing offices of foreign railways in United States. Ry R 67:736-7 N 13 '20
 Purchasing railway supplies on a service basis. M. E. Townet. Ry R 69 209-10 Ag 13 '21
 Railroad buying in 1920 disappointing. Iron Age 107 47-8 Ja 6 '21
 Railroads ready to spend a third of a billion. J. G. Condon. Ptr Ink 114 33-4 Mr 17 '21
 Rules governing railway purchases under sec. 10, Clayton act. Ry R 69:700-2 My 7 '21
 Service of supply as a business institution. H. C. Pearce. Ry Age 70 279-82 Ja 28 '21
 Service of supply subjects feature American railway association general meeting, Chicago. Ry R 68 937-42 Je 18 '21; Ry Age 70 1355-62 Je 10 '21
 Service of supply under federal control. G. G. Yeomans. Ry R 69 559-62, 616-9 O 29, N 12 '21
 Short lines establish consolidated purchasing agency. Ry Age 70 1401-2 Je 17 '21; Same abr. Ry R 68:980 Je 25 '21
 Stability of railway purchases, letter to Sec Hoover from the Railway business association. Ry Age 70 832-4 Ap 1 '21
 What will effectively restore business? E. B. Leigh. Ry R 69 483-6 O 8 '21; Same. Am Ind 22 36-8 N '21
 Why buy now program by railroads is needed; symposium. Ry Age 70 23-8 Ja 7 '21

See also Railroad supplies industry

Rails

See Rails

Rates

Additional reductions in railroad rates on export and other traffic. Comm & Fin Chr 113, 1014-15 S 3 '21
 Administration seeking way to reduce rates. Ry Age 70 975-80 Ap 22 '21
 Advance in mileage rates on privately owned freight cars. J. E. Fairbanks. Ry R 67:393 S 11 '20
 Advance in rates on foreign railways. Ry Age 68 1335, 1947 Mv 7, Je 18 '20
 Application of increased freight rates in Illinois. Ry Age 69 315-16 Ag 20 '20
 Argument of New England roads for revision of through tariffs. Ry R 67:824-9 N 27 '20
 Association of railway executives takes issue with the Farmers' national council. Ry Age 69:1033-4 D 10 '20
 Attitude of the railways regarding rates. Ry Age 70:1382 Je 17 '21
 Blanket supplement authorized for rate advance. Ry Age 69 287-9 Ag 13 '20
 Building material rates to stand. Ry Age 70:1365 Je 10 '21
 Campaign to protect western refiners from unfair rates. C. Thorne. Nat Pet N 12:56-7 N 3 '20
 Canadian railway rates. Ry R 67:641-2 O 23 '20
 Canadian railways' rate increase. Ry Age 69: 479-81 S 17 '20
 Carriers announce policy on rates and wages. T. D. Cuyler. Ry R 69:538-41 O 22 '21

Carriers suggest rates to meet the wage increases. Ry R 67:160-1 Jl 31 '20; Same. Ry Age 69:183-4 Jl 30 '20
 Cement freight rate hearings. I. D. Foos. Concrete 18:sup103-5 Je '21
 Collection of freight charges. Ry Age 68:1249-50 Ap 23 '20
 Commerce commission makes new ruling as to export freight rates on iron and steel articles. Iron Age 105:1305 My 6 '20
 Commission recommends caution in adjustment of grain rates. W. V. Hardie. Ry Age 70:882 Ap 8 '21
 Commission reduces western grain rates. Ry Age 71:833-6 O 29 '21
 Commissioner Woolley on railway rates and cost of living. Ry Age 68:283-4 Ja 23 '20
 Companies' proposals as to railway rates. Engineer 130:422 O 29 '20
 Cost of transportation in relation to other cost factors. J. H. Parmelee. Ry Age 70: 1079-80 My 6 '21
 Courts enjoin state interference with increased rates. Ry R 67:322-3 Ag 28 '20
 Deadlocked on iron ore rates. A. J. Hain. Iron Tr R 68:1469 My 26 '21
 Dealers oppose seasonal coal rates. Iron Tr R 66 1349 Mv 6 '20
 Decision of Interstate commerce commission ordering increase to interstate basis. Ry R 67:807-9 N 27 '20
 Diminished traffic not result of increased rates. E. Chambers. Ry Age 70:1279-84 Je 3 '21; Abstract. Ry R 68:876-7 Je 4 '21
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 Effect of the rate increases disappointing. Ry Age 70 71-3 Ja 7 '21
 Effect upon public utilities of depreciation charges on freight rates. N. E. I. A. Bul 7: 404-8 Jl '20
 English railway rate committee reports. Ry Age 70 347 F 4 '21
 Error in combination rate rule forms basis for reparation claims. Nat Pet N 12:35 N 10 '20
 Exchange surcharge on shipments between U.S. and Canada. Ry Age 70:250-1 Ja 21 '21
 Expediting the rate increase inquiry. F. Ithia. Ptr R 66 930-1 Je 5 '20
 Extensive rate reductions made by roads in recent months. T. D. Cuyler. Ry R 69:545 O 22 '21
 Farmers' organizations demand rate reduction. Ry Age 70:1034 Ap 29 '21
 Federal intrastate rate control. Eng N 85: 1114-15 D 9 '20
 First reductions in iron and steel rates. Iron Age 108 411-12 Ag 18 '21
 Freight rate reductions. Ry R 69:15 Jl 2 '21
 Freight rate reductions made since Ex Parte 74. Ry Age 71:869-70 N 5 '21
 Freight rates and prosperity. J. A. Campbell. Ry R 69:609 N 5 '21
 Freight rates are not responsible for business depression. J. Knuttschnitt. Comm & Fin Chr 112:2044-5 My 14 '21
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 Freight rates influence New England's choice of coal. Coal Age 18 290-2 Ag 5 '20
 Freight rates on cement contested. I. D. Foos. Concrete 17:sup92 D '20
 Freight rates on construction materials. E. G. Sutton. Eng & Contr 54:338-9 O 6 '20
 Freight rates on iron ore discussed. Iron Age 106:5-7 Jl 1 '20
 Future railway expenses and rates. Ry Age 71:3-4 Jl 2 '21
 Governor's committee opposes rate raise in New England. Ry Age 70:1071-2 My 6 '21
 Grain rate cut, while possibly illegal, likely to stand—estimated annual loss to railroads—previous rate cuts. Comm & Fin Chr 113: 1348 sec 1 O 29 '21

Railroads—Rates—Continued

Hearing on general rate advance case. Ry Age 68:1412, 1517-24, 1681-5, 1940-7, 1977-81; 69:64-8, 145-6 My 14, 28, Je 11-25, Jl 9, 23 '20

Hearing on rate increases before the I. C. C. Ry R 66:927-30, 1060-2; 67:60-2 Je 5, 19, Jl 10 '20

Hearings before Inter-state commerce commission on rate adjustments. Comm & Fin Chr 110:1252-4 Mr 27 '20

Hearings by New England governors' committee. J. H. Hustis. Ry Age 70:801-2 Mr 25 '21

Hearings on application of railroads for higher freight rates. Comm & Fin Chr 110:2624-6 Je 26 '20

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Higher freight rates fail to curtail shipping. Ry Age 70:69-70 Ja 7 '21

How the 5½ per cent basis for rates will affect New England roads. Ry R 66:211-12 F 7 '20

Illinois state commission refuses increased rates. Ry R 67:240-1 Ag 14 '20

Important grain rate decision. Ry Age 71:810-11 O 29 '21

Increase in railway rates Engineering 109:17-18 Ja 2 '20

Increase in rates on French railroads. F Jaques Ry Age 68:1423 Mv 14 '20

Increased freight rates add little to cost of living. Ry R 67:292-3 Ag 21 '20

Increased freight rates and the cost of living. Ry Age 68:1524 Mv 28 '20

Increased rates authorized by I. C. C. Ry Age 69:223-34 Ag 6 '20. Same abr Ry R 67:187-97 Ag 7 '20; Same Comm & Fin Chr 111. 549-56 Ag 7 '20

Increases in freight rates on iron and steel products, ranging from 25 to 40 per cent according to territory Iron Age 106:552-3 Ag 26 '20

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Industry still split on rate increase after conference. Nat Pet N 12:27-8 O 13 '20

Interpretation of tariffs. R. R. Lethem. 152p Traffic service corporation, Chicago, Ill. '21

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I.C.C. holds hearing on rate-making procedure. Ry Age 68:1031-6 Mr 26 '20

I.C.C. orders increase in Illinois freight rates Ry Age 70:334-5 F 4 '21

I. C. C. orders increase in intrastate rates Ry Age 69:913-16 N 26 '20; Excerpts Comm & Fin Chr 111:2010-12 sec 1 N 20 '20

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Inter-state commerce commission orders increases in intra-state railroad rates in Illinois. Comm & Fin Chr 111:2186-7 D 4 '20

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Jones & Laughlin propose prorating proposed rail advance between Northern and Southern lines to maintain competitive balance between lake and interior furnaces. Iron Tr R 66:1741-2 Je 17 '20

Law makes rate cut difficult. Iron Tr R 68:1184 Ap 28 '21

Losses to Union Pacific Rr. which would result from reduced rates on grain. Comm & Fin Chr 113:1012-13 S 8 '21

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New York state board holds up higher rates. Ry R 67:281 Ag 21 '20

Opposes freight rate reductions on grain sought by western states I. E. Wetling. Comm & Fin Chr 113:918 Ag 27 '21

Organized business and the railways A B Johnson Ry R 69:501-5 O 15 '21

Our railroads must have higher freight rates E. E. Riggs. Ry R 67:27-8 Jl 3 '20

Permission to reduce ore rates granted L W Moffett Iron Age 108:944-4 O 13 '21

Piratical commission merchants' attacks on freight rates. Ry Age 70:967-8 Ap 22 '21

Present freight rates do not restrain commerce C. F. Balch Ry Age 71:499-500 S 10 '21

President finds railroad problem difficult Ry Age 70:1041-2 Ap 29 '21

President not urging general rate cut. Ry Age 70:1337-8 Je 10 '21

President urges reduction of transportation costs Ry Age 70:931-2 Ap 15 '21

Principles of railway rates Ry R 68:171-3 Ja 29 '21

Problem of rates on the Canadian railways. E. W. Beatty. Ry Age 70:112 Ja 7 '21

Progress in rate reductions Ry Age 71:8 Jl 2 '21

Proportion of oil traffic moved by rail growing less Nat Pet N 13:25-7 Ag 17 '21

Protest from the commission merchants. Ry Age 70:1201-2 My 27 '21

Prussian-Hessian railways' financial position R. E. Thayer Ry Age 68:1976 Je 25 '20

Purchasing agents of mid-continent oil companies join forces in fight on higher freight rates on tubular goods Nat Pet N 13:45 Mr 9 '21

Rail rates take toll on foundry sand Foundry 49:320-1 Ap 15 '21

Railroad labor and the freight rate problems. C. A. Prouty Ry Age 68:499-500 F 13 '20

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Railroads have already made extensive decreases in rates Ry Age 71:762 O 22 '21

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Rates on articles in common use. Ry Age 69:561 O 1 '20

Rates on hay and grain to be reduced. Ry R 69:568-70 O 29 '21

Railroads—Rates—Continued

Rates to intermountain territory found not unreasonable. Ry Age 70:1034-6 Ap 29 '21
 Reduction in freight rates on grain. Comm & Fin Chr 113 806 Ag 20 '21
 Reduction of live stock rates proposed. Ry Age 71:165-6 Jl 23 '21
 Reduction of rates vs. improved service; interesting railway income catechism. Ry Age 70:557-9 Mr 11 '21
 Regulation of railway rates and securities; an unsuspected bond between them disclosed by recent decisions of the I.C.C. E: A. Bradford. Annalist 17:515-16 My 9 '21
 Regulation of railways is regulation of all commerce. E: A. Bradford. Annalist 17:563-4 My 23 '21
 Relation of freight charges to values of commodities. J. Kruttschnitt Ry Age 67:1105-6 D 5 '19
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 Remove inequalities in interstate freight rates from head of lakes; virtual mileage basis in effect. Coal Age 19 684 Ap 14 '21
 Report of committee of N.W.D.A. on transportation. Oil Paint & Drug Rep 100:42-4 O 4 '21
 Representatives of state commissioners association approve rate advance. Ry Age 69 243 Ag 6 '20
 Resuscitation of business and the railroads awaits reasonable period of stable price conditions. G. N. Snider. Coal Age 20 467-8 S 22 '21
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 Roads denied general advance on petroleum products in Kansas. Nat Pet N 12:30 N 3 '20
 Roads win huge rate increase. Iron Tr R 67 364-6 Ag 5 '20
 Rule of rate making. E. E. Clark. Ry Age 68: 420 D 6 '20
 Seasonal coal freight rates. Coal Age 17: 653-4, 864-5, 918-9, 1214 Ap 1, 29, My 6, Je 10 '20
 Seasonal coal rate bill text. Coal Age 17 1153-4 Je 3 '20
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 Standardization of rates and charges recommended for British railways. S. Thompson. Ry R 68:170-1 Ja 23 '21
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 State rate question argued in Supreme court. Ry Age 70:511-13, 716-17 Mr 4, 18 '21
 State versus interstate rate regulation. Ry Age 71:830 O 29 '21
 States to attack railroad rates. Iron Tr R 68:537 F 24 '21
 Status of intrastate advanced rate proceedings. Ry Age 69 312, 351-2, 390-2, 477-8, 611 Ag 20-S 3, 17, O 8 '20
 Tidewater refiner in strong plea for percentage increase in rates. Nat Pet N 12: 27 Jl 14 '20
 Transportation needs in Eastern district; abstracts. D. Willard. Ry Age 68:1521-2 My 23 '20. Ry R 66:869-70 My 29 '20; Comm & Fin Chr 110:1937-9 My 8 '20
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 20 per cent cut in rates possible only with 80 per cent lower wages. S. Thompson. Ry R 69:549-50 O 22 '21

Western roads apply for rate advance. Ry Age 68 1399-1400 My 14 '20
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 What increased freight rates amount to primarily. Ry R 67:522-3 O 2 '20
 Why increased rates did not benefit roads. D. Willard. Comm & Fin Chr 112:2267 My 28 '21

Wisconsin intrastate rate case—brief of the appellees. Ry R 68:361-7, 396-401 Mr 6-12 '21
 Work out comprehensive readjustment plan for oil freight rates. Nat Pet N 13:29-41 1 '21

See also Railroads—Fares; Railroads—Passes; Railway mail service

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See also Railroads—Forms, blanks, etc.

Refuse disposal

Economical handling of railway waste material. Il Eng & Contr 54:597 D 15 '20

Repair shops

See Railroads—Shops

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Compiling tonnage reports by aid of accounting machines. Ry R 66:493-4 Mr 20 '20

Roadmasters

Everyday duties of a roadmaster. E. Keough. Ry R 68:357-60 Mr 5 '21; Excerpt. Eng & Contr 55:171 F 16 '21

Rolling stock

Condition of rolling stock in France today. F. Jaques. Ry Age 67:1223-5 D 26 '19

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Financing and final allocation of the standard equipment. Ry Age 69:278-9 Ag 13 '20

Little progress in reducing equipment shortage. Ry Age 70:47-9 Ja 7 '21

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See Strikes

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Railroads—Wages—Continued

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Traffic troubles reduced by enlarging water supply. Southern Pacific effects annual saving of \$104,000 Il map Ry Age 70: 1339-41 Je 10 '21

Waterworks system for the Norfolk & Western Ry. at Roanoke, Va. diag plans Ry R 69 469-72 O 8 '21

See also Locomotive terminals—Water supply

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Railroad right of way singed clear of weeds Il Pop Mech 36 237 Ag '21

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New Haven builds freight yards at Cedar Hill Il diag plan Ry Age 69 179-83 JI 30 '20

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See also Railroads and state—Germany

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See also Pavements, Concrete; Roads, Bituminous concrete

Construction equipment

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Cost

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Estimates

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Maintenance and repair

Jacking up a road. *il Sci Am* 124:231 Mr 19 '21

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Roads, County

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Roads, Desert

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Roads, Earth

Dirt roads treated with steam ashes and cold road oil. *F. H. Shephard and E. E. Butterfield. Eng N* 87:477 S 22 '21, Discussion. *O. F. Weisgerber* 87:661 O 20 '21

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Cost

Earth road maintenance costs in Nebraska. *Eng N* 87:76 Jl 14 '21

Roads, Experimental

Illinois experimental highway. *C. C. Brown. il diag Pub Works* 50:115-18, 166-8 1' 3, 19 '21

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Roads, Federal aid

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See also Roads—Finance

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Construction and maintenance of gravel roads. *F. H. Colburn il Good Roads n s* 18:211-13 N 12 '19

Construction of crushed gravel roads in New Hampshire. *F. E. Everett. Munic Eng* 59:5-6 Jl '20

Crushed stone and gravel roads. *C. L. McKesson and A. F. Morris. il Pub Roads* 4:3-5 My '21; Same. *Eng & Contr* 55:543-4 Je 1 '21; Same. *Good Roads n s* 21:321-2+ Je 22 '21

Economical methods of rebuilding gravel and macadam roads. *E. A. James. Can Eng* 40:489-90 My 19 '21; Same. *Eng & Contr* 56:16 Jl 6 '21

Experience with surface-treated gravel, light-traffic streets in Richmond, Ind. *D. B. Davis. il Munic Eng* 59:202-3 D '20

Roads, Gravel—Continued

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Roads, Military

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Roads, State aid

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See also Roads—Finance

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Roadside planting

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Roadside planting—Continued

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Robbery

See also Automobiles—Theft; Platinum—Theft; Silk theft

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Portrait. Elec W 77:244 Ja 29 '21

Robert, Henry Martyn, 1837-

Appreciation. por Eng N 84:798-802 Ap 22 '20

Robert college

Engineering school

Robert college, engineering school. L. A.

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Consult the Agricultural Index for additional material

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Case hardening

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- Chicago's trial trailer completed. *il diag*
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- Control trailers used in Washington. *il diag*
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 Depreciation, with special reference to service-at-cost agreements B. W. Warren. Elec Ry J 55:88-90 Ja 10 '20
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Universal loop for 118 cars an hour in Kansas City. Il plan Elec Ry J 58:725-6 O 22 '21

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Better transportation for Camden. Il Elec Ry J 57:484-7 Mr 5 '21

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Wanted—a transportation sales manager. W. L. Goodwin. Il Elec Ry J 58:466-74 S 24 '21

See also Street railroads—Employees; Street railroads—Public relations

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See also Street railroads, Municipal

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Rolling stock

See also Street cars

Street railroads—Continued**Routing**

- Mr Beeler studies traffic in Paterson. Elec Ry J 57:454-5 Mr 5 '21
 Rerouting in Akron saves \$60,000. map Elec Ry J 56:309-10 Ag 14 '20
 Rerouting plan to save \$620,000; sections of Beeler report on Kansas City railways. maps Elec Ry J 56:957-61 N 6 '20
 St Louis transit system. diag Pub Works 50. 220-1 Mr 12 '21
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See also Street railroads—Loops**Safety devices and measures**

- Accident reduction versus excessive concentration upon fare collection. Elec Ry J 57: 689 Ap 9 '21
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Securities

- Considerations affecting the market for street railway securities il M. Addinsell Elec Ry J 58:592-4 O 8 '21

See also Electric railroads—Securities**Shelters**

- New railroad shelter in Milwaukee il Elec Ry J 57:508 Mr 12 '21

Shops**See Electric railroads—Shops****Signals****See Electric railroads—Signals****Snow protection and removal**

- B.R.T. digs out with a steam shovel il Elec Ry J 55 390-1 F 21 '20
 Does it pay to prepare for winter operation? J. S. Dean il Elec Ry J 56 1226-9 D 18 '20
 Maintenance account no. 12—removal of snow, ice and sand. R. C. Cram. il Elec Ry J 55:634-6 Mr 27 '20
 New York lines fight snow and ice. il Elec Ry J 55:389-90 F 21 '20
 Open cars changed to snow sweepers. il diag Elec Ry J 57:495-7 Mr 12 '21; Abstract. Génie Civil 78:535 Je 18 '21
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Special work**See Street railroads—Track****Stations**

- New terminal at Milwaukee opened. il plan Elec Ry J 56:595-8 S 25 '20

Stops

- Skip stop for trains only, mixed in with single-car units. Elec Ry J 55:906 My 1 '20
 Skip-stop still used. Elec Ry J 56:1288 D 25 '20
 Spacing of car stops il Elec Ry J 55:330 F 14 '20

Switches, frogs, etc.

- Broken manganese frogs repaired without interrupting traffic. diag Elec Ry J 57:929-30 My 21 '21
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 Building frogs in Atlanta by the thermit process. il diag Elec Ry J 58 15 Ji 2 '21
 Combined signal and switch installation. diag Elec Ry J 57 728 Ap 16 '21
 Preventing splitting of switches. il diag Elec Ry J 56:1201 D 11 '20
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Taxation

- Discussion on taxation. Elec Ry J 57:1126-7 Je 18 '21

Terminals

- Rapid transit for Cleveland H. M. Brinckerhoff. il map Elec Ry J 55:856-8 Ap 24 '20; Same. Eng N 84:803-5 Ap 22 '20
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See also Street railroads—Stations**Tickets**

- Has the paper ticket become obsolete? Elec Ry J 56:746-7 O 16 '20
 New ticket for zone system. Elec Ry J 55: 480 Mr 6 '20

Track

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Relaying downtown track in St. Louis. *il Elec Ry J* 58:599-601 S 25 '20

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See also Street railroads—Loops

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Brooklyn adopts surface car trains. *il Elec Ry J* 55:464-7 Mr 6 '20

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Transfers

Foot punched transfer. *il Elec Ry J* 56:723 O 9 '20

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Street railroads—Valuation—Continued

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Argentina

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Relief program enacted. Elec Ry J 57:1141 Je 18 '21

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See also San Francisco—Rapid transit

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See also Automobile laws and regulations;

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Advertising

See Business streets—Advertising

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Testing

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Foreign experience with the trackless trolley. J. W. Welsh. Eng & Contr 55:159 F 16 '21**Improved type of trackless trolley car. Il Elec R 79:528 O 1 '21****New merchandising agent—the rail-less vehicle. Il Elec Ry J 58:514-17 S 24 '21****Pioneer trackless trolley installation at Richmond, Va. Il diag plan Elec Ry J 57:1158-61 Je 25 '21****Possibilities of the trackless trolley. H. I. Andrews. Il diags plan Elec Ry J 56:1136-40 D 4 '20****Rail-less car. Il Elec Ry J 58:550-2 O 1 '21****Railless traction at York. Il Electrician 87:329 S 9 '21****Re-introducing the trackless trolley in the United States. Il Sci Am 125:27 J1 9 '21****Streetcar highways are prosperous. Il Elec R 79:528 O 1 '21****Trackless trolley buses in Vienna; abstract. E. F. Indels. Elec W 78:182 J1 23 '21****Trackless trolley demonstration. Elec Ry J 57:846 My 7 '21****Trackless trolley in England. Elec Ry J 57:865 My 7 '21****Trackless trolley in two British cities. Il diags Elec Ry J 57:77-9 Ja 8 '21****Trackless trolley proposed for Greenville, Texas. Elec R 78:666 Ap 23 '21****Trackless trolley tested at Schenectady. Il Elec Ry J 57:1132 Je 18 '21. Same. Ry R 69:29-30 J1 2 '21****Trackless trolleys. Pub Works 50:455 My 28 '21****Trackless trolleys for New York. Elec Ry J 57:1002-3 My 28 '21****Trackless trolleys in Germany. Elec Ry J 57:819 My 7 '21****Trolley bus an evolution, not revolution. T. S. Wheelwright. Elec Ry J 58:710 O 15 '21****Trolley bus operation commences on Staten Island. Il map Elec Ry J 58:689-91 O 15 '21****Trolley buses at York, England. Elec Ry J 58:772 O 29 '21****Cost of operation****Bus and car costs compared. H. L. Andrews. Elec Ry J 58:769-71; Discussion. C. W. Stocks. 77:1-2 O 29 '21****Bus transportation field. C. W. Stocks. Elec Ry J 58:517-22 S 24 '21****Motor busses or trackless trolleys. H. L. Andrews. Il Gen Elec R 23:331-4 Ap '20. Abstract. Sci Am M 1:565-6 Je '20****Urban transportation field analyzed. J. C. Thirlwall. Elec Ry J 58:546-50 O 1 '21****Trackman's rule****Trackman's rule. J. H. Ritter. diag Coal Age 17:298 F 12 '20****Tracks, Concrete. See Concrete tracks****Tractive resistance****Studies of the automobile; tractive resistance. G. B. Upton. Sibley J 35:120-4 S '21****Tractor engines****Accessibility is featured in tractor engine. diags Automotive Ind 41:1064-6 N 27 '19****Analysis of truck and tractor engine governors. F. C. Ziesenheim. Il diags Automotive Ind 43:1010-15 N 18 '20****Features of latest design in new W.S.M. tractor engine. Il Automotive Ind 42:896-7 Ap 15 '20****Heavy-duty high-speed engine, with discussion. O. E. Griner and M. A. Smith. Il Soc Auto Eng J 7:89-95 J1 '20****Midwest tractor engine for heavy duty. Il Automotive Ind 41:1262-3 D 25 '19****Ricardo engine for agricultural tractor; Darlington show. diags Engineering 110:44-6 J1 9 '20****Stearns tractor engine. Il diags Motor Age 37:36-7 Ap 29 '20****Tractor engines. E. F. Hallock. American automobile digest, Cincinnati '20****See also Tractors**

Tractor engines—Continued**Cooling**

Standard mechanical operations in tractor service; the cooling system. J. C. Thorpe and G. H. Radebaugh. *il Motor Age* 37: 34-5 My '20; 38-9 My '27; 30-1 Je '3; 28-9 Je '10; 32-3 Je '17, 32-3 Je '24 '20

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Lubrication

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Manufacture

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Specifications

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Tractor trailers. See Motor truck trailers; Motor trucks in freight service

Tractors

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- American tractors on rubber plantations.** *Il India Rubber W* 63:324 F '21
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- Consult the Agricultural Index for additional material**

Accessories

See Tractor industry and trade—Tractor accessories

Axles

- Front axles for tractors.** *diag Automotive Ind* 44:747 Ap 7 '21

Clutches

- F.J.X. Bork and Beck heavy duty single plate clutch.** *diag Automotive Ind* 44:1116 My 26 '21

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Tractors—Cost of operation—Continued

Fuel comparison. H. F. Crafts. *Il Sci Am* 125:268 O 15 '21

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Exhibit of tractor equipment shows improvement and advance of industry. P. M. Heldt. *Il chart diag Automotive Ind* 42:654-7 Mr 11 '20

Fittings for the tractor. *Il diags Motor Age* 37:26-8 F 12 '20

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See also Tractor engines—Manufacture**Operation****See Tractor operation****Performance**

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Repair

Standard mechanical operations in tractor service. J. C. Thorpe and G. H. Radebaugh. *Il Motor Age* 37:7-10 F 5; 30-1 F 12; 22-3 F 19; 24-5 F 26; 33-9 Mr 4; 40-1

Tractors—Repair—Continued

Mr 11; 36-7 Mr 18; 36-7 Mr 25; 54-5 Ap 1; 37-9 Ap 8; 38-9 Ap 15; 38-9 Ap 22; 40-1 Ap 29, 42-4 My 6; 34-5 My 20; 38-9 My 27; 30-1 Je 3, 28-9 Je 10; 32-3 Je 17, 32-3 Je 24, 38:36-7 Ag 12; 36-7 Ag 19, 35-6 Ag 26, 36-7 S 2; 34-5 S 16 '20

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Ventilation—Continued

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Ventilation—Continued

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Water meters

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